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ABSTRACT

An examination of historical developments in western Africa during six climate periods extending over two millennia, this study demonstrates that numerous historical developments correlate with climate periods and/or were influenced by changes in rainfall patterns and ecological conditions. These include such diverse topics as the diffusion of cultigens and domestic animals; movements of language groups; the development of trade routes and the exploitation of mineral, agricultural, and sylvan resources; techniques of warfare and state-building; and numerous other economic, social, and cultural patterns associated with the peoples of western Africa. Data and analyses presented in this study derive from scholarship in many disciplines, including anthropology, art history, folklore, geography, history, and linguistics. Collections of oral traditions and scholarship are also included. Part 1 covers western Africa from c300 B.C.-c300 A.D. in "The Era of Smiths and Riverine Traders," and from c300 A.D.-700 A.D. describing a period of expanding commercial networks. Part 2, "The Era of Savanna Zone," discusses western Africa from c700-1100 A.D. Part 3, "The Era of Power Associations and Mandekalu Horse Warriors," examines western Africa from c1100-1500 A.D. Part 4, "A Brief, But Eventful Wet Period," covers western Africa from c1500-1630 and Part 5, "An Era of Droughts, Famines, Warfare, and Slaving," discusses western Africa from c1630-1860. The document also includes 4 figures and 15 maps. (RSI)

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Western Africa to c/1860 A.D.
A Provisional Historical Schema
Based on Climate Periods

George E. Brooks

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Indiana University African Studies Program
Working Papers Series, No. 1

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African Studies Program
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Bloomington, Indiana
August, 1985

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This study is dedicated to

DANIEL F. McCALL

in appreciation of his contributions
as a pioneer of interdisciplinary approaches in
Africa-related scholarship and as teacher and mentor
to students at Boston University and other institutions.

INTRODUCTION

George E. Brooks' manuscript, Western Africa to c1960 A.D., a Provisional Historical Schema Based on Climate Periods, is the first in our new series, "Works in Progress." The faculty of the African Studies Program, and in particular, its publications committee has long been concerned with providing a means for the dissemination of research that is at a vital stage of intellectual development, but in need of critical comments from specialists at other institutions. We, therefore, have decided to distribute limited editions in this series which can be sent out for comments and suggestions prior to submission for publication. We hope that this manuscript will open up a lively scholarly debate which will benefit both the author and the wider academic community.

Patrick O'Meara, Director
African Studies Program
August, 1985

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PREFACE

No scholar interested in Africa needs to be reminded of the pervasive influences climate changes have had on the inhabitants of the continent. If the droughts which have afflicted Africa since the 1960s have had far-reaching consequences, information presented in this study shows that such has likewise been the case many times in the past. Wet periods have posed special challenges as well, compelling African cultivators and pastoralists to adapt to changing environmental conditions.

This study examines historical developments in western Africa during six climate periods extending over two millennia. The schema demonstrates that numerous historical developments correlate with climate periods and/or were influenced by changes in rainfall patterns and ecological conditions. These include such diverse phenomena as the diffusion ot cultigens and domestic animals; movements of language groups; the development of trade routes and the exploitation of mineral, agricultural, and sylvan resources; techinques of warfare and state-building; and numerous other economic, social, and cultural patterns associated with the peoples of western Africa.

Data and analyses presented in this study derive from scholarship in many disciplines, notably anthropology, art history, folklore, geography, history, and linguistics. Collections of oral traditions and scholarship explicating them frequently provided unexpected insights and valuable information elucidating many issues.

The predictive value of a historical schema based on climate periods is shown time and again. Significantly, too, the schema

provides an "inside-out" historical periodization for western Africa that is independent of European-derived chronologies and European patterns of interaction with African societies.

Many scholars have contributed directly and indirectly to the schema. The stimulus for correlating climate patterns with historical developments derives from successively reading the pioneering papers written by Candice Goucher, Sharon E. Nicholson, and Susan and Roderick McIntosh cited in the Introduction. The schema derives, too, from the scholarship of Antonio Carreira, S.M. Cissoko, Philip D. Curtin, P.E.H. Hair, Christopher Fyfe, John Hargreaves, George Way Harley, Nehemia Levtzion, Daniel F. McCall, Raymond Mauny, Avelino Teixeira da Mota, Djibril Tamsir Niane, Paul Pelissier, Yves Person, Jacques Richard-Molard, Walter Rodney, B.K. Sidibe, J. Spencer Trimingham, and others who have built-on and reinterpreted the contributions of earlier scholars, travellers, traders, and colonial administrators, Europeans, Africans, and Eur-Africans.

I am grateful to a number of persons for commenting on preliminary drafts of the manuscript. In particular, I want to thank Charles S. Bird for numerous stimulating conversations and for patiently explaining and re-explaining numerous issues related to linguistic classification and analysis. Boubacar Barry generously made available a preliminary draft of his forthcoming history of Senegambia from the fifteenth century to the present. I received important information, suggestions, and cautionary advice from Charles Becker, Ellen Brickwedde, Kathryn Green, John W. Johnson, Adam Jones, Martha B.

Kendall, Martin A. Klein, Joseph J. Lauer, Roderick J. McIntosh, Susan K. McIntosh, Patrick McNaughton, Joseph C. Miller, Patrick Munson, Luigi Scantamburlo, Bonnie L. Wright, Donald R. Wright, and Patrick O'Meara and members of the African Studies Program Committee on Publications. An Indiana University Faculty Research Grant enabled me to benefit from the invaluable cartographic skills of John M. Hollingsworth. Of inestimable importance to the project was Sue Hanson, whose outstanding ability in word processer management is complemented by matchless patience dealing with fellow human beings.

Research for this monograph convinced me anew of the advantages of interdisciplinary studies undertaken on a larger scale, geographically and chronologically, than usually attempted by scholars. What is learned about historical developments in one area provides insights concerning similar developments elsewhere, the patterns of dispersion of Mande speaking groups and their social and cultural attributes being a notable example. Much specialized research concerning West Africa has been completed in recent decades and it is now time to re-examine larger relationships between areas and peoples, to experiment with new analyses and syntheses, and to formulate new lines of inquiry. Many topics have been neglected or should be re-examined, such as the roles of smiths, the spread of "power associations", the wellsprings of religious beliefs, and the means by which individuals are assimilated by families and social groups. I look forward to an ongoing dialogue with readers concerning these congeries of issues and concerning modifications and refinements of the climate periods

presented in the schema.

Harare, Zimbabwe

November 1984

Bloomington, Indiana

July 1985

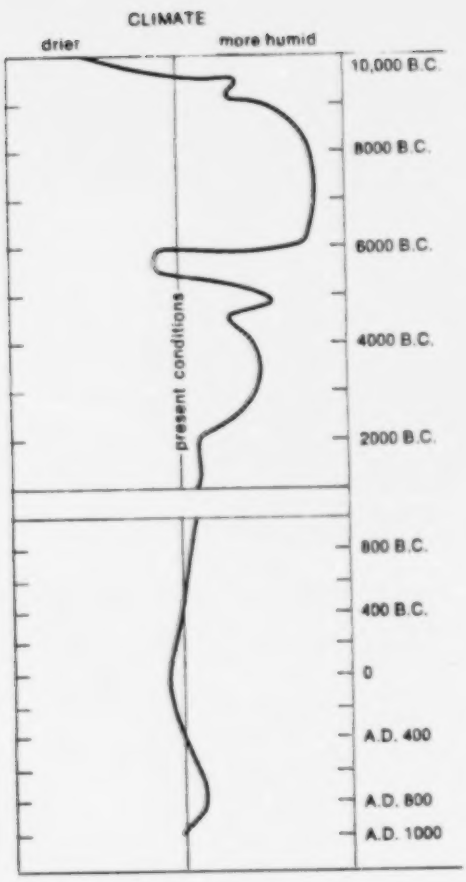

Figure #1 Prehistoric Climate Fluctuations in West Africa From page 604 of McIntosh and McIntosh, "West African Prehistory."

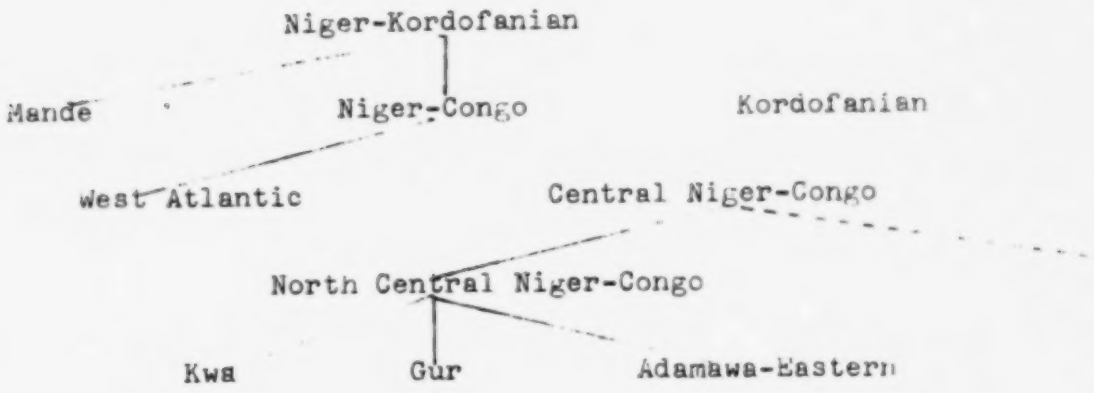

Figure #2 Languages of West Africa Derived from Table 9, page 212, of Patrick R. Bennett and Jan P. Sterk, "South Central Niger-Congo: A Reclassification," Studies in African Linguistics, 8, 3 (December 1977). Note that "Kru" is re-labeled "Kwa."

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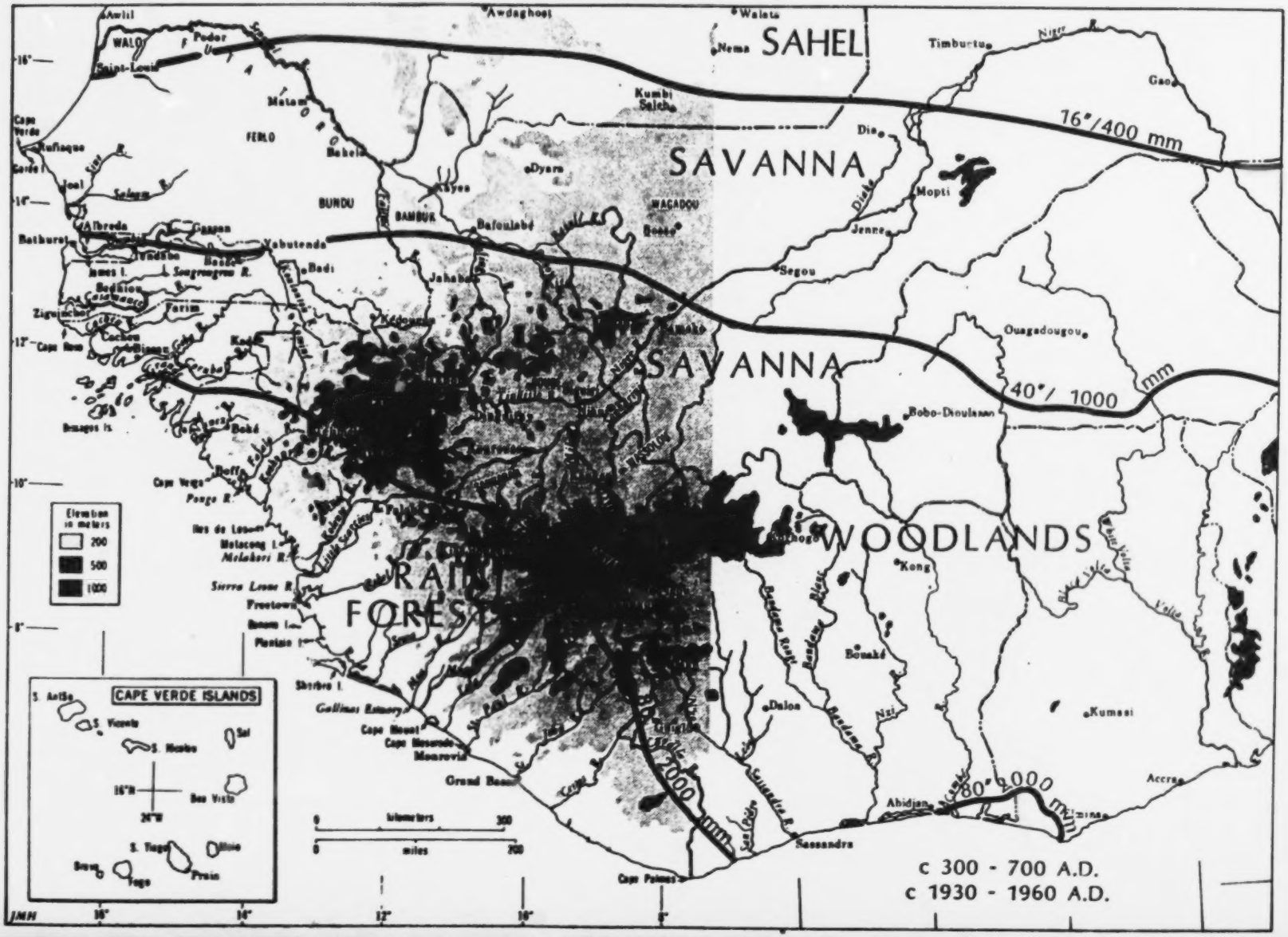
Western Africa



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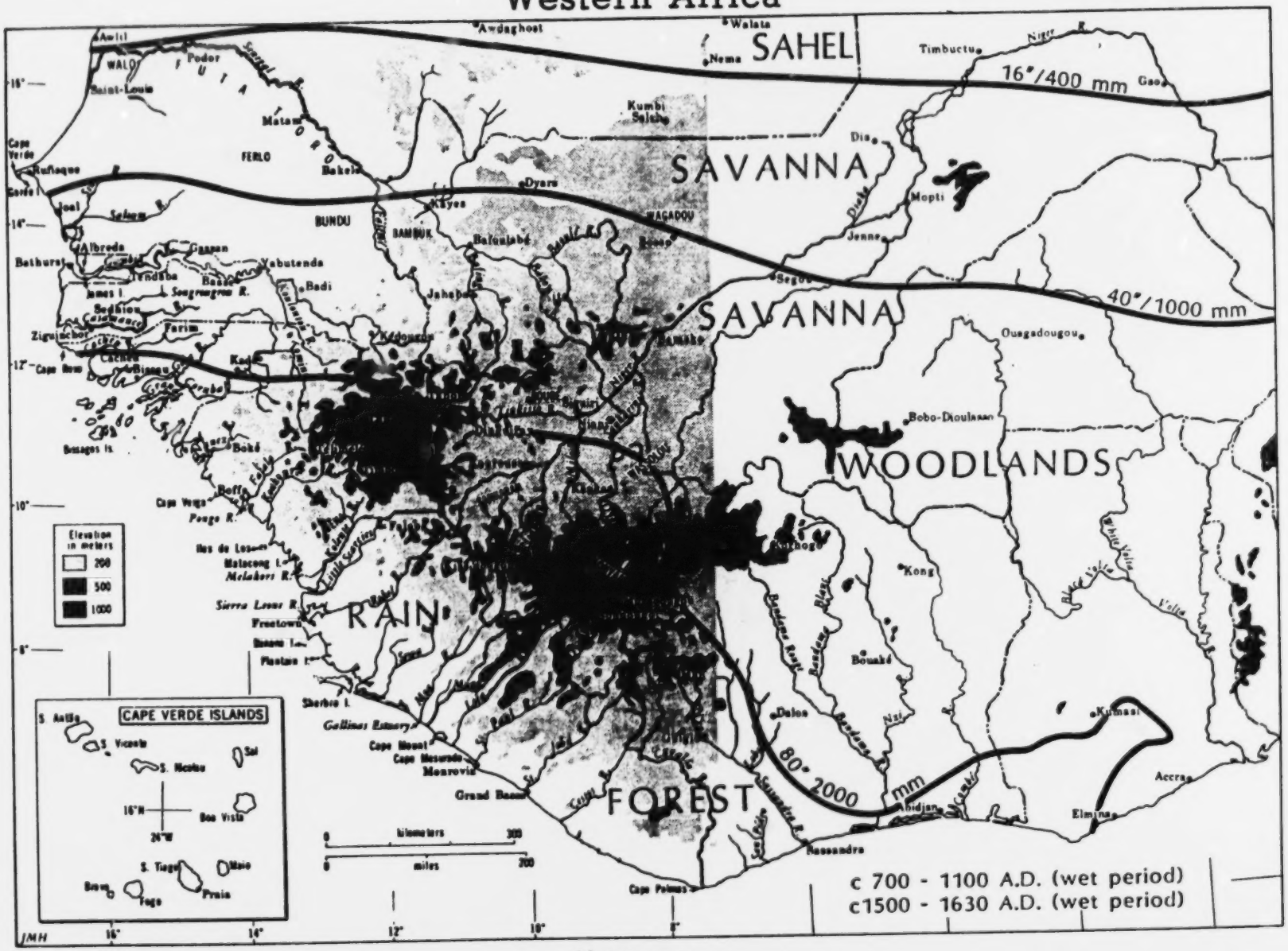
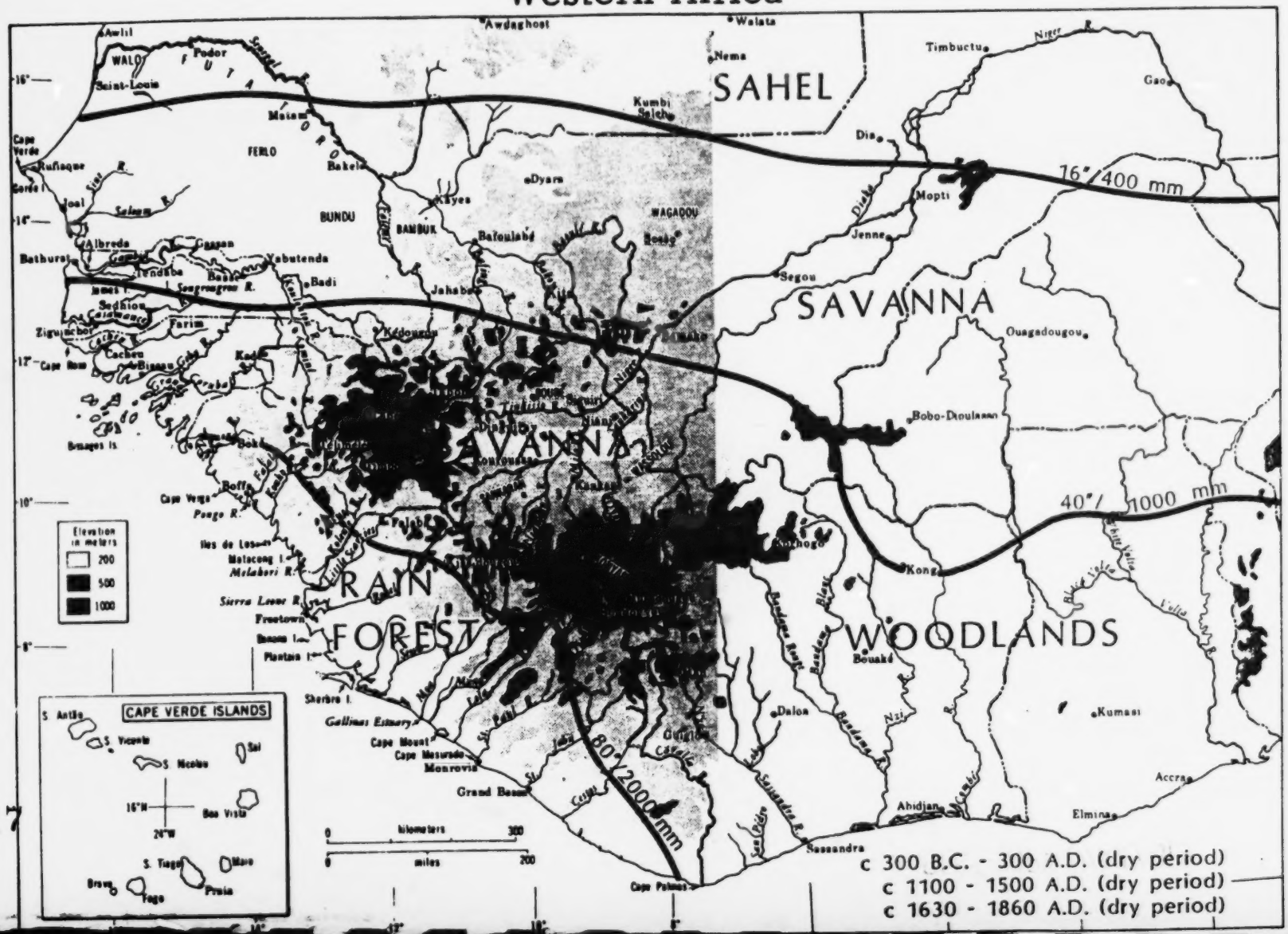
Western Africa



MAP #2

Western Africa



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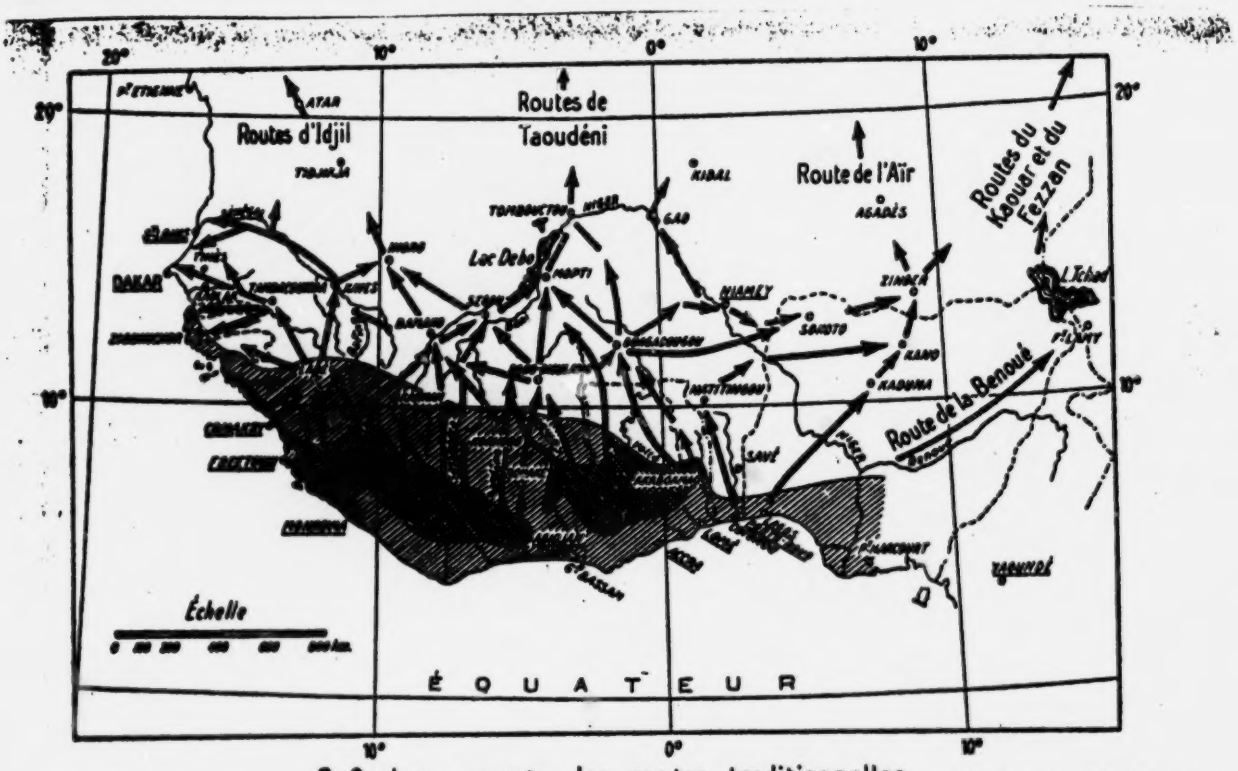


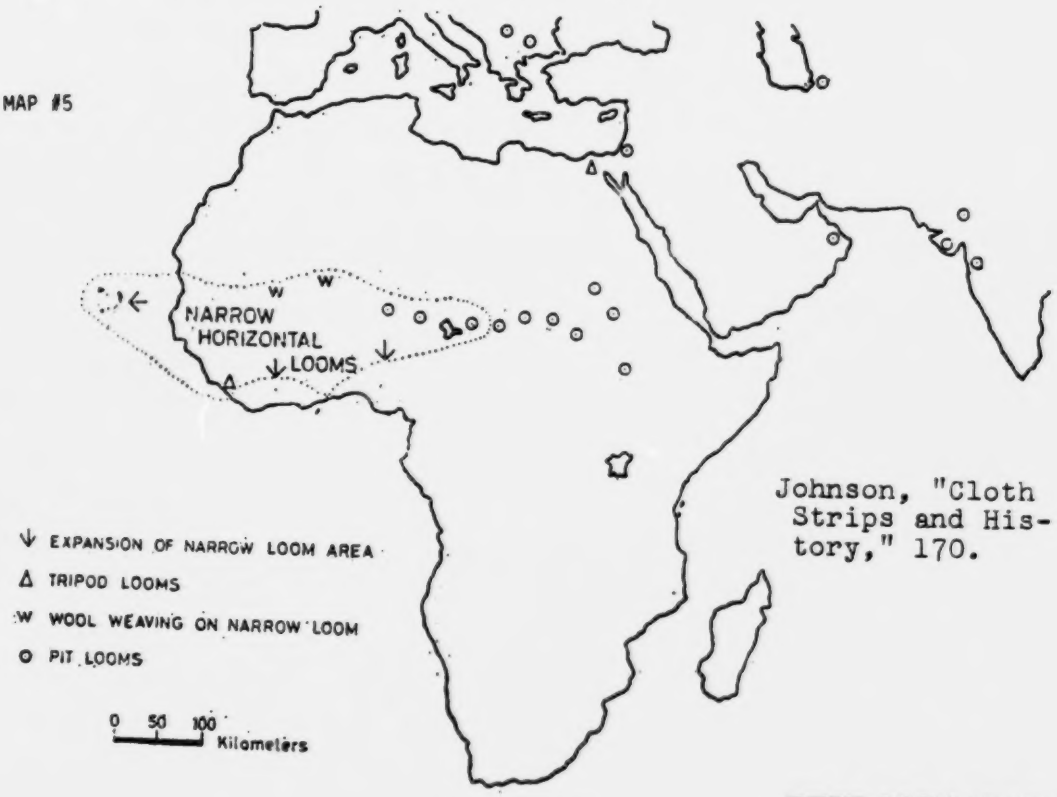
MAP #4

8. Quelques aspects des routes traditionnelles

Forte production de Kola nitida
Faible production (arbres spontanés ou culture disséminée)
Routes de la Kola dans le sud, des esclaves et du sel dans le nord

Richard-Molard, Afrique Occidentale Française, 67.

MAP #5



Johnson, "Cloth Strips and History," 170.

Fig. 1. Pedal looms.

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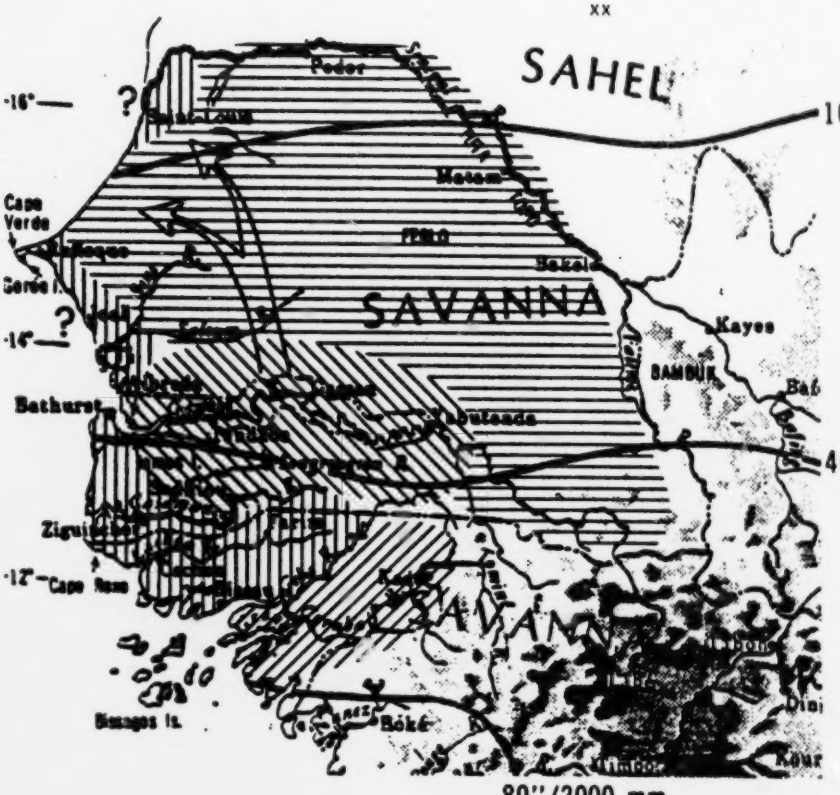


MAP #6

Proto-Bak

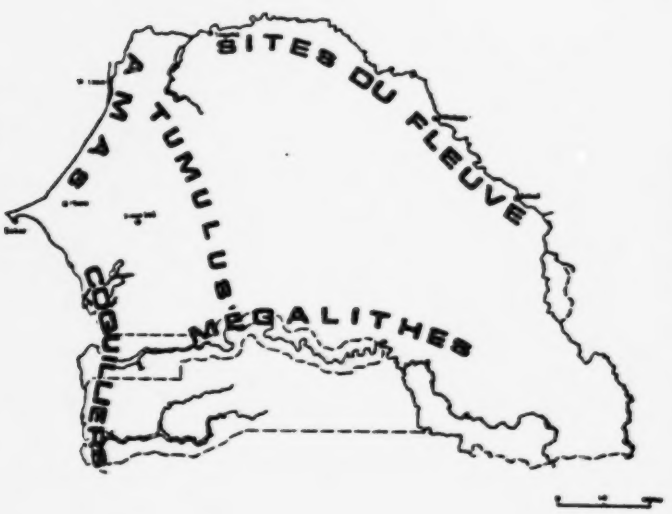
Proto-Tenda

Proto-Nun

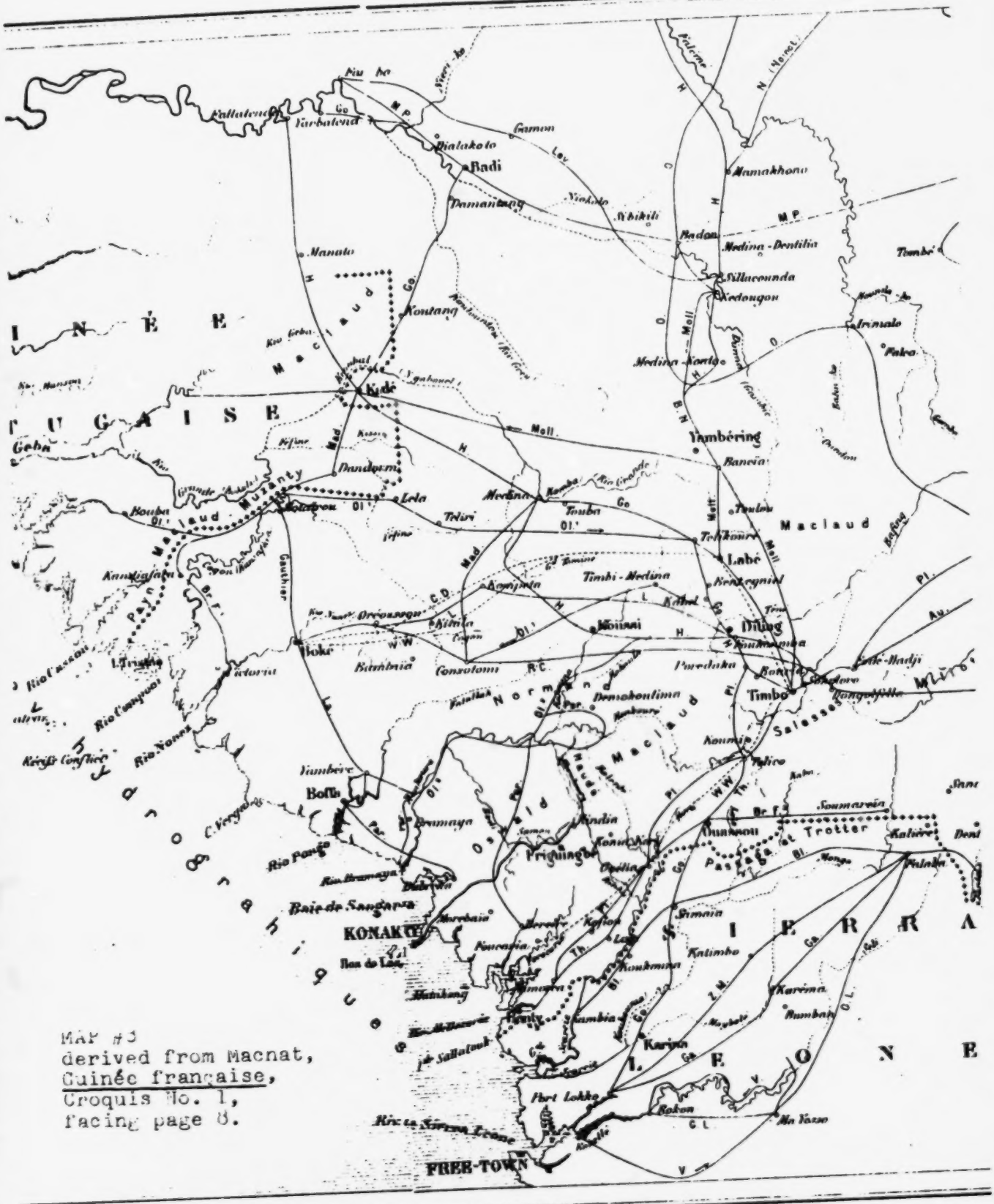
Proto-Jaad

Proto-Wolof population movements during the c700-1100 A.D. wet period

Rainfall isohyets represent the c300 B.C.-300 A.D. dry period



MAP #7



MAP #3
derived from Macnat,
Guinée française,
Croquis No. 1,
facing page 8.

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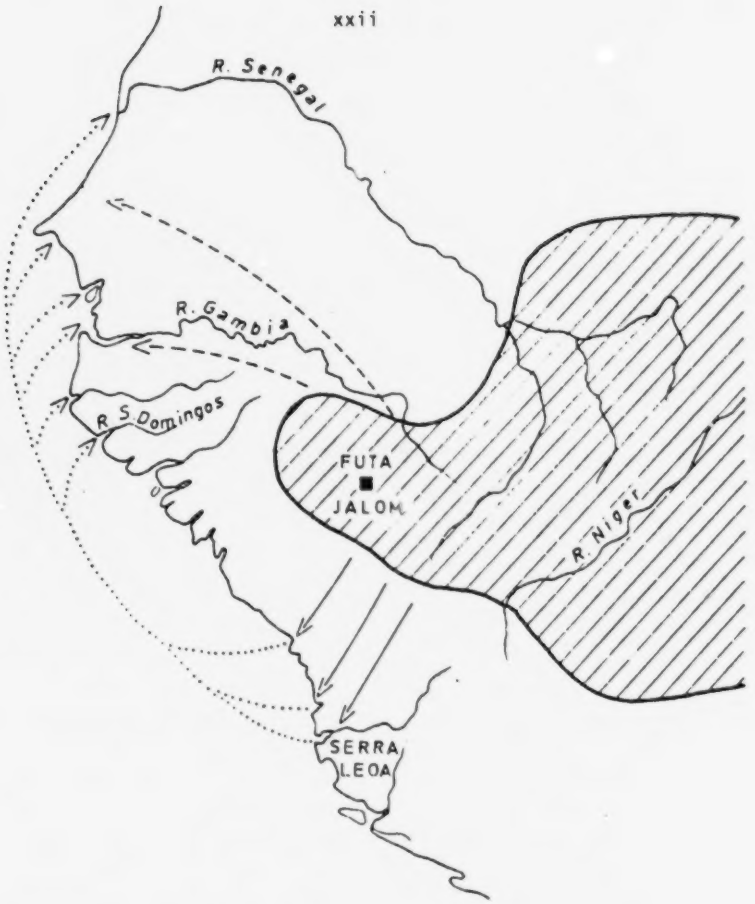
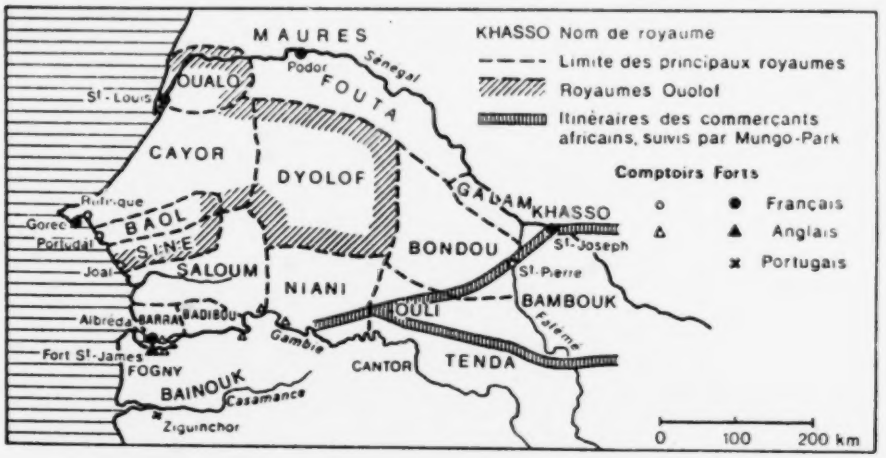


MAP #9 Commerce in Iron Bars, Upper Guinea Coast and Senegambia during the Sixteenth Century. Teixeira da Mota, "Santiago," page 557.



MAP #10 Le Sénégal aux xvii et xviii siècles From Jacques Lombard, "Le Sénégal et la Mauritanie," in Deschamps, ed., Histoire Générale de l'Afrique Noire, I, 239.

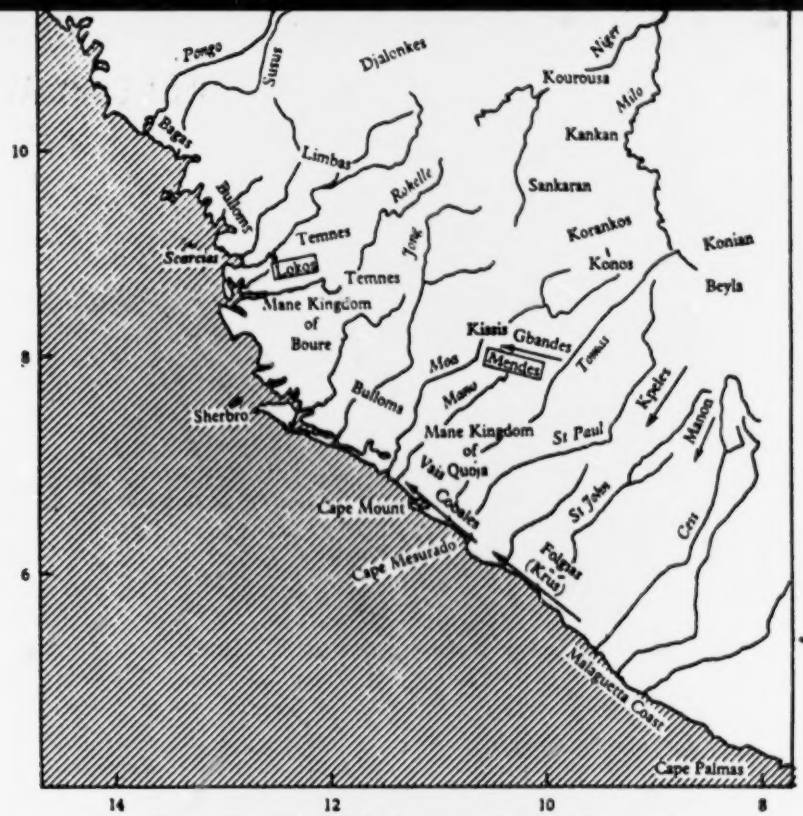


Fig. 1. The coming of the Manes. →, direction of movement in the early sixteenth century. Scale 1:4,000,000.

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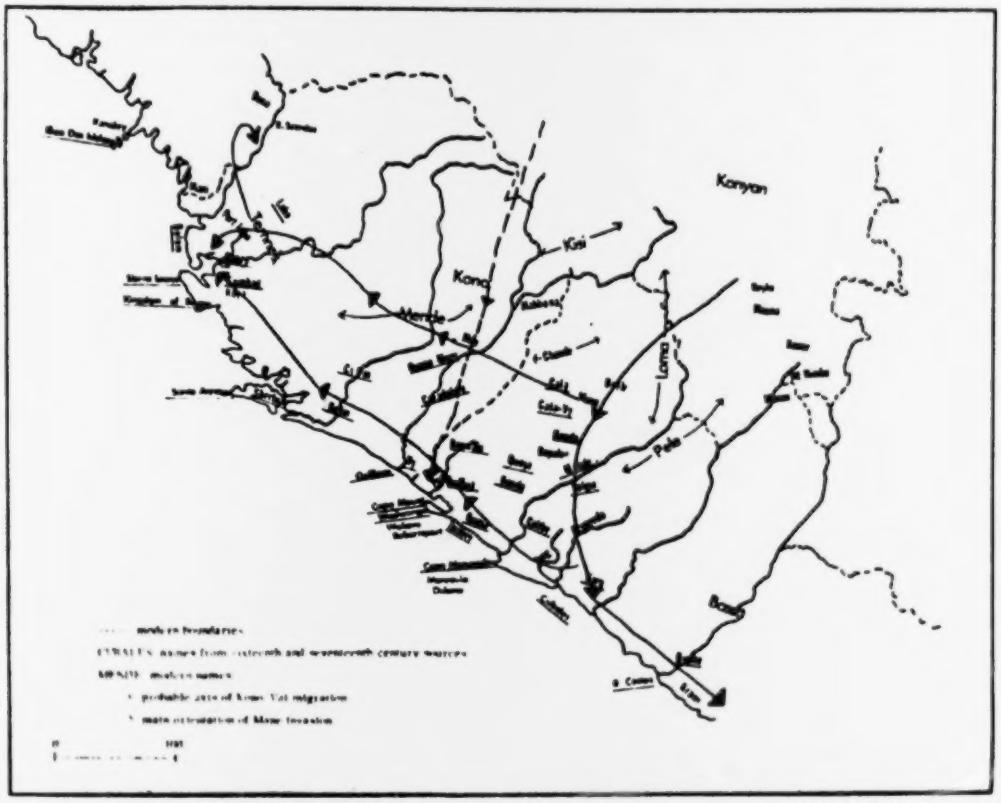
MAP #11 Walter Rodney, "A Reconsideration of the Mane Invasions of Sierra Leone," JAH, VIII, 2 (1967), 221.



MAP #12 Yves Person, "Ethnic Movements and Acculturation in Upper Guinea since the Fifteenth Century," IJAHS, IV, 3 (1971), 670.

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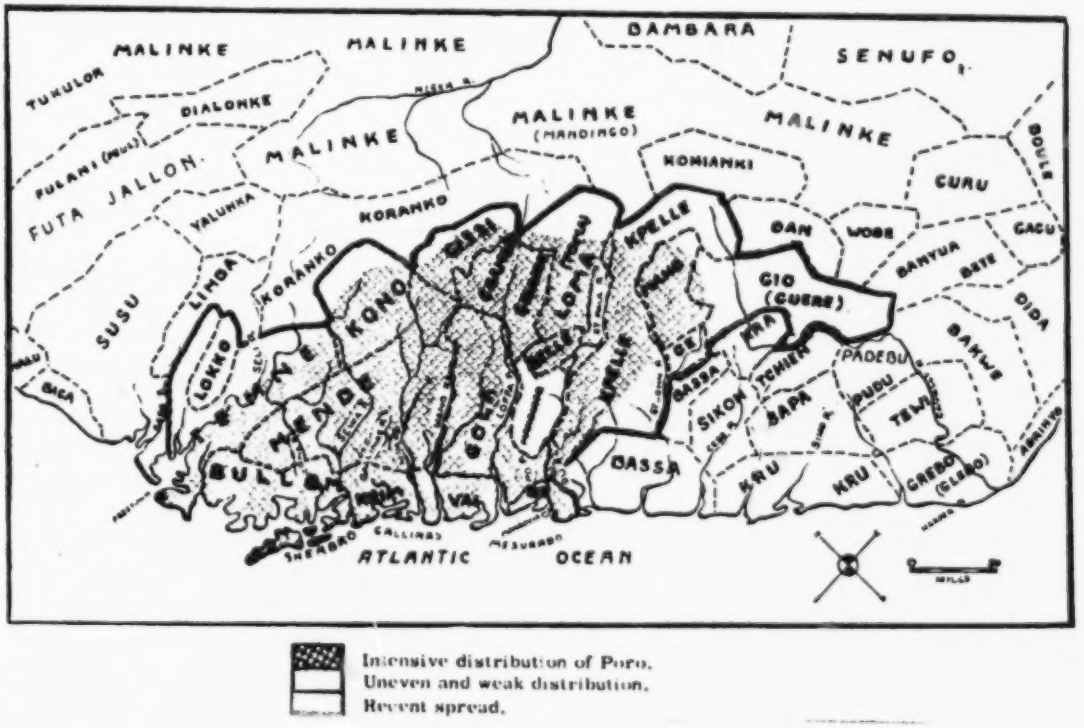
FIG. 17—Map showing the main trade routes of Liberia and the physiographic regions of the country: 1, coastal plain, rivers and lagoons navigable for small boats; 2, rolling hills, 100 to 300 feet elevation, adapted to rubber production; 3, hills rising steeply to 600 feet or more; 4, dissected plateau, average elevation 900 feet, home of the cola tree; 5, mountainous country, up to 3000 (northwest) and 4000 (north-center) feet.

The map has been compiled from standard works on Liberia, from unpublished data by B. F. Powell and the Firestone Plantations Co., from route data of people I have known in Liberia, and from my own data for the central part of the country (see Fig. 18). Scale 1:4,250,000.

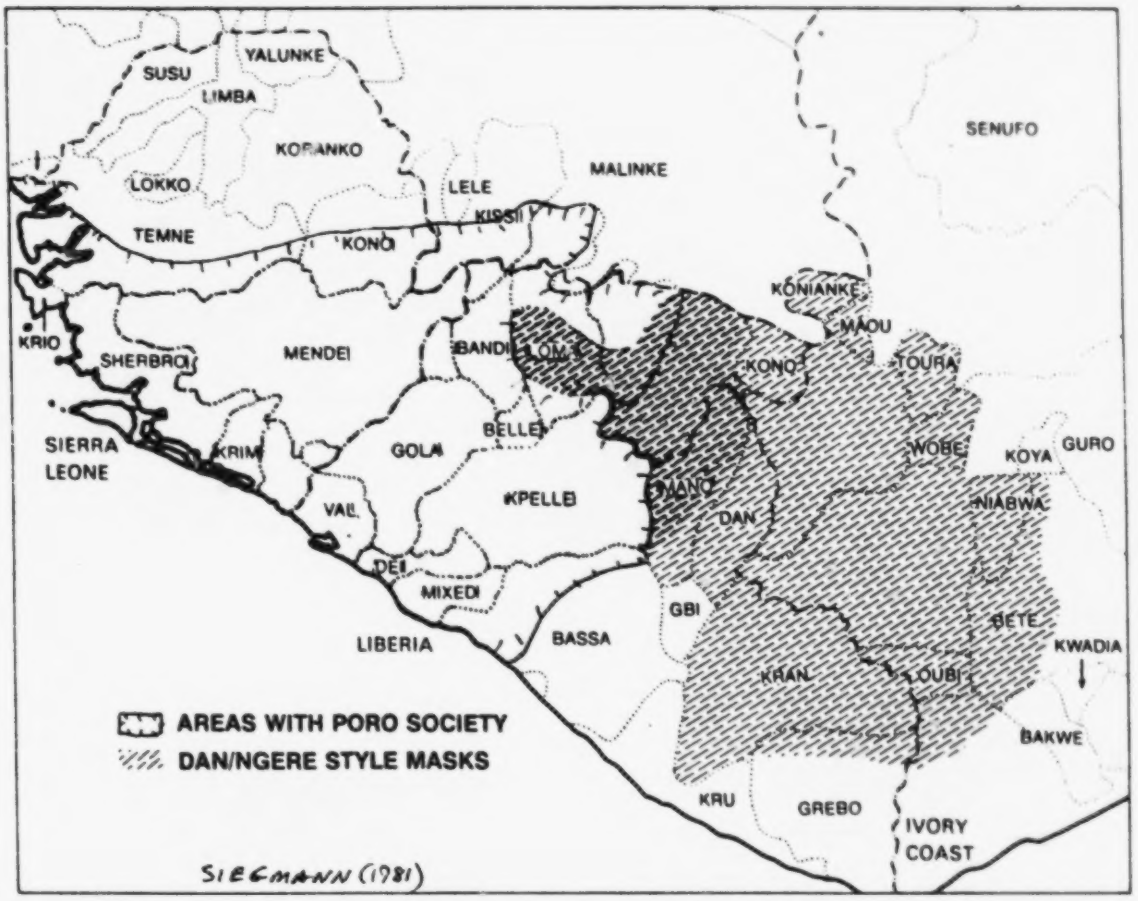
MAP # 13

George Harley, "Roads and Trails in Liberia," Geographical Review, XXIX (1939), 451.



Intensive distribution of Poro.
Uneven and weak distribution.
Recent spread.

MAP #14 Warren L. D'Azevedo, "Some Historical Problems in the Delineation of a Central West Atlantic Region," Annals of the N.Y. Academy of Sciences, 96 (1962), 513.



MAP #15 William Siegmann
(unpublished paper, African Studies Association convention, 1981).

INTRODUCTION

For the purposes of this study, western Africa is defined as the territory west of the inland delta of the Niger River and the Bandama River, an area principally inhabited by West Atlantic and Mande speaking peoples. 1

Six historical periods are delineated in the schema: c300 B.C. to c300 A.D.; c300 A.D. to c700 A.D.; c700-1100 A.D.; c1100-1500 A.D.; c1500-1630 A.D.; and c1630-1860 A.D.. Four categories of information are examined for each time period: climate changes and their consequences with respect to ecological zones; language groups, with particular reference to population movements and the diffusion of languages; commercial activities, including trade routes, markets, exploitation of mineral and vegetable resources, and social and cultural factors, including the spread of Mande "power associations" and tripartite social organization, the conquests of horse warriors and their influence on state-building, and the craft skills and verbal arts associated with nyamakalaw groups. These categories and their significance in the schema's analyses are discussed following.

Climate Changes and Ecological Zones.

Map #1 depicts the annual rainfall patterns of western Africa in contemporary times, i.e. 1930-1960. 2 There is a dramatic decline in rainfall from south to north; from c4,000 millimeters (c160 inches) along the coasts of Liberia, Sierra Leone, and southern Guinea-

Conakry; c2,000 to 1,000 mm (c80 to 40 in.) in the interior as far north as The Gambia; and c500 mm (c20 in.) in Senegal north of the Cape Verde peninsula. As a consequence, sylvan, agricultural, and pastoral resources vary significantly from one climate zone to another, providing potential opportunities for commercial exchanges between societies living in different ecologies—opportunities the peoples of western Africa have exploited from time immemorial.

For expository purposes the schema distinguishes between five ecological zones extending across western Africa: desert; sahel; savanna; savanna-woodland; and forest (coastal-riverine areas are discussed separately). Isohyets are depicted as straight lines drawn on a large scale map, but the borderlands of one ecological "zone" imperceptibly merge with those of another and isohyets oscillate north or south in many places depending on altitude, presence of lakes and rivers, prevailing winds, and other factors which contribute to variations in rainfall and distinctive micro-climate areas. 3

The 100 millimeter (4 in.) rainfall isohyet serves to mark the southern boundary of the Sahara. The margins of the Sahara receive sufficient rainfall to sustain small populations of Berbers and Moors herding camels, goats, sheep, donkeys, and a few prized horses. Livestock graze on seasonal grasses and browse bushes and acacia trees over widely dispersed areas. Rain does not fall evenly, compelling pastoralists to move their animals from place to place in search of water and suitable vegetation. The Sahara merges imperceptibly into the sahelian zone, where desert peoples bring their livestock as the long dry season from October to July desiccates their lands.

The sahelian zone receives 100 to 400 mm (4-16 in.) of rainfall

extending over three to four months, June to September, sufficient to sustain excellent-to-adequate pasturage during most of the year. Fula, Soninke, and other pastoralists herd large numbers of zebu cattle, goats, sheep, donkeys, and horses in the sahel zone, and in contiguous areas of the savanna zone extending southwards.

Fula practice transhumance, taking their livestock northwards in the sahel at the beginning of the rainy season and southwards into the savanna zone during the dry season after agricultural groups have harvested their crops. While their livestock glean the vegetation remaining on cultivators' fields, Fula barter milk, animals, and hides for grains, other foodstuffs, and artisanal products, and negotiate arrangements to tend their hosts' livestock in return for compensation. This 'symbiotic' relationship between pastoral and agricultural groups has numerous social and cultural ramifications which have been of great significance for the sahel-savanna borderlands during the historical periods covered in the schema.

The savanna zone is delimited by the 400 mm and 1,000 mm (16-40 in.) isohyets. This wide zone is the "bright country" celebrated by Mande bards. Rainfall is sufficient to support a diversified vegetation of grasses, shrubs, and trees, the latter growing larger and more numerous to the southwards as rainfall becomes more abundant. Depending on the amount of rainfall, cultivators grow different varieties of sorghum, millet, rice, vegetables, cotton plants, and condiments, and safeguard baobab, karite/shea-butter, oil palms, and other trees. Cotton textiles have long been a major item of commerce with people living in other ecological zones.

The savanna is crossed by an invisible and fluctuating frontier

marking the northernmost range of tsetse flies, vectors for a variety of trypanosomes lethal to camels, horses, donkeys, sheep, zebu cattle, and the larger ("European") breed of goats. The "tsetse fly line" approximates the 1,000 mm (40 in.) isohyet, and during the past two millennia changing rainfall patterns have caused the "line" to oscillate north and south in a belt approximately 200 kilometers wide extending across western Africa between 13 and 15 degrees north latitude. Wherever the "line" may be sited in a given period, there are northern extensions of tsetse infestation along watercourses where trees and bushes provide a shady habitat — tsetse distain to fly any great distance across open spaces. Concomitantly, cleared areas of "derived savanna" are safe for livestock well south of the 1,000 mm isohyet, including much of the area of Futa Jallon in recent times.

The "tsetse fly line" (and safe areas south of it) marks the southward extension of Fula pastoralists who herd zebu cattle by preference. Fula and other groups living south of the "line" keep West African shorthorn and ndama cattle as part of mixed farming and herding regimes; the smaller breeds are resistant to trypanosomes and may be kept in the "wet" savanna and the savanna-woodland zone.

The savanna-woodland zone lies between the 1,000 and 2,000 mm isohyets (40-80 in.), extending northwest to southeast paralleling the Upper Guinea Coast. African domesticated rice (Oryza glaberrima), both upland and padi varieties, flourish in the savanna-woodland zone in appropriate environments, but the principal foods today include imports from other continents: padi rice (Oryza sativa) from Asia, and maize and manioc from the Americas. Kola trees grow in the southern part of the zone, and kola "nuts" (seeds) constitute the

principal commodity exported northwards to markets in the savanna and sahel zones. In past times, game provided a principal source of protein, with domestic animals reduced in number (and size) by tsetse infestation.

Formerly, the 2,000 mm isohyet marked the transition from woodland to rain forest, but in recent centuries smiths cutting timber to make charcoal and cultivators using slash-and-burn methods of land clearing have turned much of the savanna-woodland zone into "derived savanna", likewise extending their activities into the forest zone beyond.

The forest zone was sparsely populated until recent times. This was at least partly due to the lack of staple food crops: the "yam belt" begins east of the Bandama River; and the principal foods grown today in the forest zone to the west of the Bandama River are African and Asian varieties of rice which were introduced into many areas during the past five centuries, plus maize and manioc.

In past times, kola, malaguetta pepper, and indigo were the principal articles of commerce with other zones, plus salt produced along the coast. These commodities were bartered for goods brought by traders from the savanna-woodland zone, or were carried northwards along the Upper Guinea Coast by seafaring groups to exchange with traders where caravan routes intersected the upper reaches of navigable rivers.

As Map #1 shows, rainfall isohyets "bend" around the Futa Jallon massif and extend southwards parallel to the coast following the mountain ranges that cleave the area into two watersheds with streams flowing north-northeast and south-southwest. Futa Jallon is the <u>chateau d'eau</u> or "waterworks" of West Africa, source of the Niger,

Senegal, Gambia, Casamance, Geba, Corubal, Numez, Scarcies, Moa, and numerous other rivers and streams. Of special historical significance are the northeastern outliers of Futa Jallon, which separate the tributaries of the Senegal and Niger rivers; this north-south "divide" has had important ramifications for trade routes, language distributions, and other social and cultural phenomena.

In past times, locations of the ecological zones depicted on Map #1 differed considerably according to climate changes, the zones extending northwards in wet periods, southwards during dry periods. How much more or less rain fell on the average during "wet" and "dry" periods remains to be determined, not to mention minor oscillations affecting different areas, different years. Comparisons with past times are difficult to make for lack of data, and from the circumstance that ecological conditions have greatly changed in western Africa in recent centuries from increased population-to-land ratios, much larger tracts of land cleared and under cultivation, overgrazing of pasturelands, and other factors.

The climate history of West Africa is imperfectly charted as yet, but recent scholarship has delineated significant fluctuations of rainfall and ecological changes which are depicted on Figure #1.

To summarize and elucidate Figure #1, from c18,000 to c10,000 B.C., western Africa experienced a long dry phase during which the present-day area of the Sahara Desert and contiguous territory down to c11 degrees north latitude were virtually uninhabited. Rainfall increased from c10,000 B.C., and by c9,000 B.C. the Sahara had been transformed into a landscape of shallow lakes and marshes linked by permanent watercourses. There was an arid period between c6,000 and

c5,500 B.C., followed by a second wet period lasting until c2,500 B.C., the so-called "Atlantic Wet Phase."

The dry climate phase that became established in western Africa around c2,500 B.C. has prevailed — with interspersed periods of higher rainfall — down to the present day. Alternating wet and dry periods since the beginning of the Christian era provide the chronological framework for the schema: (I) increasing rainfall after c300 A.D. culminated in (II) a wet period c700-1100 A.D.; followed by (III) a dry period c1100-1500 A.D.; (IV) a wet period c1500-1630 A.D.; and (V) a dry period c1630-1860. 4 While the foregoing periodization is approximate and subject to modification by ongoing research, it provides a starting point for studying the consequences of climate changes for the ecological zones inhabited by the peoples of western Africa.

Map #1 served as the "base map" for drafting provisional maps to depict the locations of possible/presumed ecological zones during "wet" and "dry" periods in past times. The isohyets on Map #2 depict 20% more rainfall than those on Map #1, those for Map #3 depict 20% less rainfall than Map #1, e.g., the 1,000 mm isohyets on Map #2 and Map #3 demarcate the 1,200 mm and 800 mm isohyets for Map #1. While arbitrary, the estimates of 20% more and less rainfall are conceived to be reasonable possibilities during wet and dry periods, and the ecological zones have proved generally congruent with information recorded in oral and written sources. Moreover, hypotheses derived from these provisional maps prove to be very informative in understanding past historical developments, as the schema demonstrates.

Language Groups. Perhaps the most frustrating challenge for scholars of all disciplines interested in West Africa is the conundrum involving relationships between languages, social groupings, and cultures, however defined.

People in western Africa define themselves principally according to kinship and occupational affiliations and only secondarily in linguistic terms. Individuals and families change languages and modify social and cultural patterns in ways perplexing to outsiders. People may change family names to assert their affiliation with elite families (captives in past times adopted 'slave-master' names), client relationships, apprenticeships, and religious affiliations (numerous Mande speaking Muslims have adopted the name Toure, especially those who have become marabouts), or for other reasons. 5

Reflecting on his study of Senegambian oral traditions concerning Mande and West Atlantic speaking societies, Donald R. Wright remarks, "Determination of one's ethnicity seems to have been more a matter of cultural lifestyle than of parentage or ancestry." 6 Discussing West Atlantic and Kwa speaking societies a thousand kilometers to the south, Warren L. d'Azevedo comments that inter-relationships between groups in past times "did not involve confrontations between massive and unitary entities."

> It involved, rather, interrelations among small independent human groups spreading out and merging with other groups to form new units in which any one of a number of "ethnic" traditions might predominate, depending on historical circumstances. In such a context the term "tribe" in its standard definition can scarcely comprehend the realities.

> Cultural pluralism, multilinguialism, and multiple local traditions of origin and "ethnicity" obtain within situations that are only superficially -- and frequently only temporarily -- characterized by a predominant "tribal" orientation....Throughout northern and western Liberia institutional structures and most cultural features are so generally distributed that it is no exaggeration to suggest that tribal identification is as much as matter of individual choice as of the ascribed status of birth, language, or distinctive customs. 7

Groups in western Africa defined by linguistic ascriptions such as "Susu", "Mandinka", etc., may differ significantly in social and cultural attributes from one area to another. Indeed, what "identities" individuals and groups may have asserted in past times is speculative, inasmuch as European administrators and ethnographers were as compulsive as they were expedient in establishing categories of ethnic groups from what seems likely to have been congeries of families and clans dwelling across the vast expanses of western Africa. Some groups were more or less fixed in their abodes, some moved seasonally, others migrated considerable distances as circumstances dictated.

The foregoing notwithstanding, language serves as the principal criterion for defining and discussing groups in western Africa and is so employed in this schema. Language is the principal vehicle for communicating social and cultural attributes, and the language an individual speaks may be considered a "primary" identity. But it is not the only important one: nyamakalaw (blacksmiths, bards, and leatherworkers) have "identities" that transcend language groups, and so do hunters, fisherfolk, and traders.

Scholars derive great advantage from identifying where anomalies

exist between linguistic and social "identities." Generally both stratified and acephalous societies assimilate migrants, conquered groups, captives, and other "strangers" with remarkable facility. Groups that are exceptions include nyamakalaw, traders, and warrior elites. These latter serve as valuable "trace elements" providing historical evidence for the development of trade networks, the diffusion of specialized skills such as iron-working, and the founding of conquest states.

The inhabitants of western Africa speak languages classified as belonging to sub-families of Niger-Kordofanian: Mande, West Atlantic, Kwa and Gur (see Figure #2). Groups speaking Mande and West Atlantic languages are of salient importance with respect to the schema; Kwa and Gur groups are marginal to the principal historical developments discussed.

Mande speakers are widely dispersed across West Africa, from the margins of the Sahara to Liberia, and from Senegambia to Nigeria. West Atlantic speakers, with the exception of the Fula diaspora across West Africa, live along the Atlantic coast from Senegal to the Sierra Leone-Liberia frontier. In former times West Atlantic groups extended much farther into the interior, but were either pushed westwards or became culturally integrated into Mande speaking populations. Kwa speakers extend from Liberia eastwards along the Gulf of Guinea to Cameroon, and Gur speakers occupy the hinterland extending north to Mali and east to Nigeria.

Linguists classify Mande languages as belonging to three sub-groups, their speakers widely dispersed across West Africa (see listing in Part II). Languages belonging to the Northern sub-group

include Soninke, whose speakers reside in the sahel and oases in the southern Sahara; Susu, a dialect closely related to Soninke, but whose speakers today live in the coastal region of Guinea-Conakry and in northern Sierra Leone, hundreds of kilometers to the south of Soninke speakers and separated by a belt of Mandekan speakers; Vai-Kono, two closely related dialects whose speakers live today in clusters some hundred kilometers apart in Sierra Leone and Liberia; and Mandekan, whose speakers live dispersed across the savanna heartland of western Africa.

The Southwestern sub-group of Mande languages include Kpelle/Guerze, Loma/Toma, Gbandi, Gbundi, Mendi, and Loko. Speakers of the Southeastern sub-group of Mande languages are widely scattered: Busa in northwestern Nigeria; Bisa, Samo, and Sya in Upper Volta; Mwa, Nwa, Kweni/Guro, and Dan/Gio in central Ivory Coast; and Mano in northern Liberia. Only the last three live west of the Bandama River in western Africa as defined by the purview of this study. 8

With the exception of Fula pastoralists, whose migrations during the present millennium traversed much of western Africa and extend three thousand kilometers across West Africa to Cameroon, groups speaking West Atlantic languages have for millennia inhabited a broad swath of territory extending hundreds of kilometers eastwards from the Atlantic coast — an area yet to be determined, but perhaps extending as far as the Bating River southwards through Futa Jallon to the area around Cape Mesurado. Only during the past six centuries have some West Atlantic speaking groups been driven westwards scores or hundreds of kilometers to where they are now located, while others were linguistically and culturally absorbed by Mande speaking groups.

Linguists classify West Atlantic languages as belonging to two branches, Northern and Southern, with the line of demarcation extending approximately along the border of Guinea-Bissau and Guinea-Conakry (see listing in Part II). The Northern branch includes, north to south: Fula (widely dispersed to the east and south), Wolof, Serer, Diola, Papel, Balanta, Biafada, and Nalu. Bijago are relegated to the limbo of an "isolated group." The Southern sub-group includes Baga, Landuma, Bullom, Temni, Limba, Kissi, and Gola. Gola are neighbors of the Dei, the westernmost group of the Kwa branch of North Central Niger-Congo languages that extend eastwards along the Gulf of Guinea.

A salient characteristic of West Atlantic languages is that notwithstanding they are characterized by great divergences in vocabulary, they generally are strikingly similar in their sound-systems, grammatical systems, and semantic systems. Such enables bi- or multi-lingual individuals to switch from one vocabulary to another without extensive adjustments in the overall linguistic systems involved, factors that facilitate communication and expedited the development of coastwise and riverine commerce. 9

When Kwa speaking groups first settled in the western range of their present diffusion, i.e., the coastal areas of Ivory Coast and Liberia, is problematical. Until recent times this area was heavily forested and very sparsely inhabited, where inhabited at all. There is reason to suppose that Kwa groups did not settle the coastal and riverine areas of western Ivory Coast and Liberia until the c1100-1500 dry period and that their westward migration was associated with coastwise exchanges of malaguetta pepper, kola, salt, iron, beads, cloth, etc., linked first to the Gulf of Guinea trading complex and

later to the Upper Guinea Coast and Senegambia commercial networks. Only the westernmost Kwa speaking groups are discussed in this schema. These include the Dei, Bassa, Kru, and Grebo, the latter extending into western Ivory Coast.

Inter-Regional Commerce. Exchanges of commodities between groups dwelling in different ecological zones has been one of the salient features of western Africa for at least the past two thousand years. Herders living in the southern Sahara and sahel exchanged livestock, hides, and milk products, plus salt and copper, with people of the savanna zone for grains and artisanal products. The latter traded with people in the woodland-savanna and forest zones for malaguetta pepper and kola, while coastal-riverine groups bartered salt and dried fish and mollusks for products of neighboring groups living in all the ecological zones.

As related in Part I following, by the beginning of the Christian era, if not earlier, there were flourishing commercial exchanges along the bend of the Niger between the Sahara, sahel, and savanna zones, expedited by riverine groups living in a number of communities. Such exchanges may have developed in this period along the Senegal River as well. Map #3 depicting the ecological zones during the c300 B.C. - 300 A.D. dry period suggests that these exchanges were primarily, if not exclusively, limited to the products of the desert, sahel, and savanna zones, inasmuch as savanna-woodland products such as kola and malaguetta pepper (which grows sparsely in this zone and flourishes in the contiguous forest zone) would have had to be transported considerable distances to reach the trading communities along the Niger bend

(and those which may have existed along the Senegal River).

The development of inter-zone commercial networks was facilitated by the period of increased rainfall beginning c300 A.D. which culminated in the wet period c700-1100 A.D. Map #2 shows that during the c700-1100 A.D. wet period the savanna-woodland zone extended far to the north of where it was during the c300 B.C. - 300 A.D. dry period, making kola and other sylvan products readily available for populations living along the Niger and Senegal Rivers, and ensuring ample timber resources to make charcoal for iron production. Riverborne traders could readily exchange the products of <u>three</u> ecological zones — sahel, savanna, and savanna-woodland — by means of the Niger and Senegal rivers and their southern and northern tributaries.

With the onset of the c1100-1500 A.D. dry period traders had to extend their riverine and caravan networks farther and farther southwards to obtain the products of the savanna-woodland and forest zones (compare Map #2 and Map #3). From what can be ascertained from historical sources it was after c1100 that Mande speaking traders founded such commercial centers as Kade, Labe, Timbo, Falaba, Kissidougou, and Musadougou in the savanna-woodland zone, from which market and artisanal centers trade routes extended into the forest zone and attained the Atlantic coast. From the thirteenth century onwards, these and other commercial centers in the savanna-woodland zone were invested by Mandekan speaking horsemen. The era of conquests and state-building continued down to the colonial period, with successive generations of warrior groups raiding along the margins of the forest zone.

A half-dozen commodities are key "trace elements" in exchanges between ecological zones: kola, salt, malaguetta pepper, cotton textiles, gold, and iron. The history of trade routes, markets, and state-building in western Africa down to the seventeenth century (and later in some areas) can be explained principally in terms of the efforts of traders and rulers to obtain and control these commodities.

Foremost among the sylvan and agricultural commodities exchanged among western African societies prior to the arrival of European mariners was kola (cola nitida), a product of the coastal forest belt extending from Guinea-Conakry to Liberia and eastwards to the Gulf of Guinea. Kola trees grow most profusely in an area extending from the Kolente and Little Scarcies Rivers to the Rokel River in northern Sierra Leone, with a second area of high production in the forests bordering southern Sierra Leone and Liberia (Map #4). Kola seeds are highly esteemed as an indulgent and mild stimulant, with numerous alleged medicinal and physiological attributes. Consumption of kola has long been part of the social and cultural warp-and-woof of the peoples of western Africa.

When coastwise and overland commerce in kola between ecological zones began remains to be determined, but one may suppose that relay exchanges between societies date to the remote past. Longstanding coastwise trade is attested by linguistic evidence. The Temni word kola was adopted by West Atlantic-speaking societies northwards along the Upper Guinea Coast and in Senegambia and by Mande speakers who settled amongst them, whereas the word for kola in the Mande "core area" is woro, possibly derived goro -½ gworo -½ woro. By the c1100-1500 dry period inhabitants of the savanna and sahel zones

consumed great quantities of kola, besides which kola was traded across the western Sahara from as early as the twelfth century. 10

A second forest product of wide commerce in western Africa which was also traded across the Sahara was malaguetta pepper (Aframomum melegueta). Pepper bushes grow from southern Guinea-Conakry to Nigeria, with the coastal forests of Liberia as the most productive area. Like kola, malaguetta pepper was prized for a variety of uses, as spice, stimulant, and for medicinal purposes. During the Middle Ages, Europeans paid high prices to obtain malaguetta pepper from North Africans, hence it was one of the commodities most avidly sought by Portuguese mariners in the voyages of reconnaissance during the fifteenth century. Portuguese named Liberia the "Grain Coast" from its being the principal source of "Grains of Paradise", as malaguetta pepper was termed.

The locations of Southeastern Mande speaking groups in western Africa, especially small "remnant" groups, suggests that members of these groups were involved in trade in malaguetta pepper, kola and other sylvan commodities prior to the spread of Mandekan languages during the c1100-1500 dry period. The siting of Mano, Dan/Gio, Kwene/Gur, and Mwa and Nwa remnant groups along the upper reaches and tributaries of the St. Paul, Cavalla, Sassandra, and Bandama Rivers suggests trade links with Kwa groups using these waterways to transport pepper, kola, and salt. Iron and iron manufactures, gold, and cotton cloth likely were the principal commodities bartered in exchange.

Mande speaking traders were long prevented from reaching the coast by Gur, Kwa, and West Atlantic speaking intermediaries. Vai present a

notable exception; their penetration to the area around Cape Mount sometime during the c1100-1500 dry period represents the only group of Mande speaking traders to attain the coast for hundreds of kilometers in either direction. Vai success derived, it would seem, from their thrusting southwards between the Bullom and Dei, respectively the southernmost West Atlantic speaking group and the northernmost Kwa group, and the most vulnerable (?) point of lodgement along the Upper Guinea Coast.

The importance of malaguetta pepper in coastwise and caravan trade in pre-European times is obscured by the decline in its commerce following the introduction of American varieties of pepper (Capsicum annum and Capsicum frutescens). "Chillies" and "bird peppers" (so-called from seeds being widely distributed by birds) flourished in savanna, savanna-woodland, and forest zones (in areas of secondary growth), reducing the demand for malaguetta pepper (and related species) for most flavoring and medicinal puposes.

A number of other sylvan products traded from the forest and savanna-woodland zones are excluded from this schema for the sake of brevity. These include another "true" kola, cola acuminata, and several "false" kolas, notably garcinia conrauna and carapa procura. Other indulgents, condiments, medicinal substances, dyes, etc., would have been traded greater or lesser distances, but information is sparse and conjectual concerning such commerce. 11

The most important commercial crop grown in western Africa in precolonial times was cotton, which flourishes in the savanna zone. Cotton textiles probably constituted the principal commodity exchanged for kola, malaguetta pepper, salt, and other products of the savanna-

woodland and forest zones and coastal-riverine areas. To date little information concerning cotton cultivation and cloth-making has been obtained by archaeologists or derived from oral traditions, but the commercialization of textiles from the tenth(?) century (see Part II following) is manifestly one of the key factors in the expansion of long distance inter-regional commerce.

The desiccation of western Africa from the twelfth century would have promoted the cultivation of cotton and the manufacture of textiles farther and farther to the south, and led to diminished production in northern areas. That such was indeed the case is suggested by European accounts concerning Senegal which relate that the flourishing commerce in cotton textiles during the sixteenth and seventeenth centuries had virtually ceased by the close of the seventeenth century.

Almost certainly the first mineral to be commercially exploited in western Africa was salt. Virtually all the salt traded was derived from the waters of the Atlantic Ocean or obtained from Saharan sources, but there were a few inland salt deposits, notably along the upper Saloum and Corubal rivers, and certain plants yielded vegetable salts to succor the salt-starved peoples of the interior.

For most of the past millennium, there have been advantageous conditions for evaporating seawater north of the 14th parallel. Senegambian societies realize a significant advantage from having more days of sunlight each year and a less humid climate than societies living south of the Gambia River. Salt flats along the mouth of the Senegal River supplied an important commerce the length of the river. South of Cape Verde, along the Petite-Cote extending from Rufisque to

the mouth of the Saloum River, Niominka maritime groups and Serer-speaking communities produced salt and prepared dried fish and mollusks for commerce with interior groups, and with societies along the Gambia River and its tributaries. Along the Upper Guinea Coast to the southwards solar evaporation was less efficient, constraining salt-makers to employ the time-consuming and labor-intensive process of boiling seawater. When inter-zonal coastwise commerce in salt first developed is not known, but there is reason to suppose that it was early linked to coastwise exchanges of kola, malaguetta pepper, and other forest products, and pre-dated the westward migrations of Mande speaking smiths and traders.

Besides salt, gold and iron were the principal minerals exploited for long distance commerce. Iron-working was practiced along the upper Niger River by c250 B.C. How, when, and where iron-making began in western Africa are unresolved questions discussed in Part II.

When gold mining and gold-working began in western Africa are also unknown, but it may be surmised that systematic prospecting and mining of gold deposits probably dates from the development of trans-Sahara trade on a regular basis during the fourth and fifth centuries A.D. Iron-working went hand-in-hand with gold-mining, to produce tools and implements for the smith-miners' own use, to barter with local societies for foodstuffs, local products, and trade goods, and to produce the iron bars that were a staple of long distance commerce.

Western Africa possessed many deposits of varying quality but the principal gold field exploited by the close of the c300-700 A.D. period was Bambuk, which lay between the confluence of the Senegal and Faleme Rivers. Bambuk was the country of the "Wangara," Mande-speak-

ing (Soninke?) traders mentioned in Arabic sources, and was the main source of gold traded by the empires of Takrur and Ghana. 12

Arabic sources relate that the development of the Boure goldfields in the area north of the Tinkisso tributary of the Niger River dates from the eleventh century. The Boure region constitutes part of the "Mande heartland," and it is of salient interest with respect to the climate change from the twelfth century that the "royal" Keita clan of the Mali Empire is said to have migrated there from Wagadu, i.e. Ghana, after the ecology of the area had been ravaged by drought. Niani, reputedly the capital of the Mali Empire (13-15 c.), was sited to the east of Boure along the fertile plains of the Sankarini River, and Arabic sources attest that gold and kola were the two principal sources of Mali's wealth.

Who were the smiths who worked the gold and iron? That they spoke a Mande language is indubitable; that they spoke Soninke is highly probable. Smiths jealously guarded the professional secrets that ensured their monopoly of gold-mining and iron-working by means of endogamous marriages and careful supervision of apprentices. Those who migrated westwards and southwards maintained their separateness even where they adopted the languages of West Atlantic-speaking societies.

Iron-smelting in Senegambia and the Guinea-Bissau region was progressively curtailed by the desiccation of western Africa from the twelfth century. While there were abundant and readily exploitable sources of iron ore, a crucial prerequisite of iron-making is the availability of suitable species of hardwoods to make charcoal for the smelting process. Even in the best of circumstances the large quan-

tities of charcoal required for furnaces soon exhausts the timber resources of surrounding areas, compelling smiths to move to new iron deposits with adjacent woodlands. 13 The more arid climate prevailing during the c1100-1500 period everywhere slowed the growth and replacement of depleted stands of timber, including along the southward-moving borderlands of the rain forests. As a consequence, iron-smelting (but not iron-working) declined and in many areas ceased—in the Senegambia, the Guinea-Bissau region, and along the upper Niger River--as smiths moved southwards into the virgin woodlands of the Futa Jallon massif and eastwards along the borders of the rain forests of northern Sierra Leone and Liberia.

The southward movement of iron-makers and the virtual cession of iron production in the Senegambia and Guinea-Bissau region can be charted by archaeological investigations and information recorded in early European sources. When European mariners arrived in the mid-fifteenth century they found iron greatly in demand among Senegambian societies, which demand Portuguese mariners enterprisingly exploited along with West African coastwise traders, by transporting iron produced in Futa Jallon northwards along the Upper Guinea Coast and by bringing iron from Europe. The exploitation of iron deposits rapidly depleted the forests of Futa Jallon, with far-reaching consequences. The half-dozen commodities discussed foregoing constituted the principal vegetable and mineral resources traded by the peoples of western Africa in pre-European times, and for a considerable period thereafter (kola remains a major item of inter-zone commerce to the present-day). There were numerous other commodities traded along the same routes for short or long distances--grains and other foodstuffs,

livestock, condiments, medicines, and manufactures ranging from leather products to dugout craft, but these were of secondary or lesser importance compared to kola, malaguetta pepper, cotton textiles, salt, gold, and iron.

I. WESTERN AFRICA c300 B.C.-300 A.D.; c300 A.D.-700 A.D.; THE ERA OF SMITHS AND RIVERINE TRADERS

The dry climate period c300 B.C.-300 A.D. and the period of increasing rainfall c300 A.D.-700 A.D. may be treated together as a continuous historical period with a major linking "event": the renewal of trans-Saharan commerce and its organization on sustained and increasingly well organized basis.

For some 600 years, from c300 B.C. to 300 A.D., the climate of the Sahara was more arid than present-day conditions and there could have been few, if any, trans-Saharan crossings, at least on a regular basis, until rainfall began to increase around the beginning of the Christian era (Figure #1). However, there were two important developments during this period that contributed significantly to the renewal of trans-Saharan contacts and the pursuit of commerce on an organized and sustained basis.

One was the development of trade networks along the bend of the Niger River linking groups living in the southern Sahara and in the sahel and savanna zones. The second development was the spread of camel-keeping in the sahel zone south of the Sahara during the early centuries A.D.; the use of camels in trans-Saharan commerce began with improving climate conditions during the beginning of the Christian era.

The Niger Bend Civilization

Archaeological research by Susan and Roderick McIntosh at Jenne-jeno and neighboring sites has demonstrated the development of extensive commercial networks along the bend of the Niger River during the period of desiccation when trans-Saharan contacts ceased, or were sporadic. Such is attested by evidence of continuous settlement at Jenne-jeno on the Bani tributary of the Niger River dating to the third century B.C., which community developed extensive commercial links with neighboring and distant areas, exchanges expedited by fisherfolk living along the Niger River and tributary streams. By c200 B.C. Jenne-jeno was importing large numbers of grinding stones for domestic use and quantities of iron ore from at least 75 kilometers' distance which the community's smiths made into iron of exceptionally high quality. Yet to be determined are all the types of iron products made by the smiths living at Jenne-jeno (and other communities) and what distances they may have been traded. Another commodity exchanged over considerable distances may have been pots (made by smiths' wives?), for quantities of excellent jars and containers of all sizes have been unearthed at Jenne-jeno. 14

The Niger River, its tributary streams, and connecting land routes served to expedite the exchange of commodities between Jenne-jeno and other riverine communities and neighboring pastoral and agricultural societies. Pastoral groups had livestock, hides, and milk products to trade; cultivators produced grains and other vegetable foods and condiments; while fishing groups supplied fresh and dried fish and mollusks and carried on the riverine commerce that linked communities living in different ecological zones. The development and expansion of commercial networks to exchange staple commodities was essential,

indeed a prerequisite, for the subsequent development of trans-Saharan trade in luxury goods.

Two major issues that are outstanding for the c300 B.C.-300 A.D. dry period are the questions as to whether commercial and settlement patterns similar to those along the bend of the Niger occurred elsewhere in western Africa, and whether the domestication of African rice may be dated to this period?

Concerning the latter, when and where African rice (Oryza glaberrima) was domesticated remain to be established. The earliest evidence of domesticated rice found thus far is from Jenne-jeno, dating to the third century B.C. 15 One may speculate that the food requirements of growing commercial centers along the Niger bend together with the desiccation spreading farther and farther southwards during the c300 B.C. - 300 A.D. dry period would have stimulated cultivation of rice on the annually inundated flood plains of the inland delta of the Niger in which Jenne-jeno is situated. There are few locations in western Africa as favorable for the growing of upland (non-padi) rice.

The products exchanged at Jenne-jeno and other communities along the bend of the Niger would likely have been restricted to those of the sahel and savanna zones and the southern Sahara, inasmuch as savanna-woodland commodities such as kola and malaguetta pepper (which grows sparsely in this zone and flourishes in the forest zone) would have had to be transported considerable distances to reach the trading communities along the Niger Bend (see Map #3). These circumstances progressively changed during the c300-700 period.

No less interesting is the possibility of developments elsewhere

in western Africa similar to those that occurred along the Niger bend. Climate patterns along the bend of the Niger seemingly would not have been dissimilar to those for the Senegal River area during the c300 B.C. - 300 A.D. dry period: the apex of the bend of the Niger River is approximately 50 kilometers north of the bend of the Senegal River. The Senegal River would have offered similar possibilities for exchanges between inhabitants of the Sahara, sahel, and savanna zones, plus trade in maritime salt which is known to have been a major item of west-east commerce along the Senegal River during later historical periods. Moreover, copper mined at Akjoujt only 400 kilometers north of the Senegal River would have supplied Senegal River traders over a shorter distance than the route between Air and the bend of the Niger River. 16 Whatever the case for the c300 B.C. -300 A.D. period, there is evidence for the development of inter-zone commercial networks linked to the Senegal River in the c300-700 period following.

Expanding Commercial Networks, c300 A.D.ff.

The four centuries following c300 A.D. may have had rainfall conditions comparable to the c1930 "base" period. However, ecological conditions in most areas likely would not be directly comparable due to vastly different population-to-land ratios and different patterns of livelihood. The renewal of Saharan and trans-Saharan commercial links during the early centuries A.D. is demonstrated in recent research concerning developments both north and south of the Sahara. Richard Bulliet's study of camel-keeping demonstrates that the use of camels by nomadic groups first spread westwards across Africa south of

the Sahara, thence to North Africa during the early centuries of the Christian era. 17 Their use in intra- and trans-Saharan commerce by Berbers would seem to date to the second or third century A.D. when increasing rainfall made long distance commerce possible on a sustained basis.

Timothy Garrard's recent scholarship demonstrates that beginning in 194 A.D. gold coins were minted at Alexandria in Egypt, and from 196 gold was minted at Carthage in Tunisia. The source(s) of the gold is unknown, but Garrard suggests that "it is not impossible that by the end of the third century a small, irregular supply of gold was becoming available through trans-Saharan trade." 18

The development of trans-Saharan trade is further attested by copper excavated at Jenne-jeno dated to c400 A.D. The most probable sources are Akjoujt in Mauritania where copper was mined and worked from c500 B.C. and the areas of Azelik and Agades in the Air massif in central Niger where copper mining dates to c2,000 B.C., or earlier. Akjoujt is closer to Jenne-jeno, and lies along the chariot route that linked the Niger bend prior to the onset of Saharan desiccation after c300 B.C.; Azelik may have been connected to the eastern chariot route that linked the Niger bend with the Gulf of Sidra. 19 Whether Akjoujt or Azelik, or both, supplied copper to Jenne-jeno, the use of copper along the bend of the Niger and the minting of gold in Tunisia testifies to the renewal of Saharan and trans-Saharan commercial linkages, this time expedited by the use of camels.

Improving climate conditions and the development of trans-Saharan commerce encouraged southward migration of Berber pastoralists. Besides sheep, goats, and ndama cattle which their ancestors had

brought into the Sahara during the Atlantic Wet Phase c5500-2500 B.C. and which had thence been introduced into the sahel and savanna zones of western Africa, Berber groups herded camels, donkeys, and zebu cattle.

Camels are highly susceptible to trypanosomiasis, and camel-keeping remained a monopoly of Berber groups living in the southern Sahara. Donkeys, by contrast, have considerable resistance to trypanosomes. They became widely diffused in the southern Sahara, sahel, and northern savanna zones, bred by Berbers, Fula, and other groups. Scholars have paid little attention to donkeys, but from all indications donkeys played an exceptionally important role in the development of intra- and inter-zone commerce in western Africa.

Zebu are a larger breed of cattle than ndama, and are capable of producing sufficient milk for herders to undertake an independent mode of pastoral life. It seems probable that Fula groups living along the Senegal River acquired zebu cattle during this period and began to practice independent pastoralism. 20 Zebu furnish milk and other animal products sufficient for basic subsistence, and surpluses may be exchanged with cultivators for grains, artisanal products, and other commodities. During the millennium following the c300-700 period, Fula migrated eastwards with herds of zebu to occupy pasturelands in the sahel and northern savanna zones as far east as northern Cameroons.

Although archaeological information is sparse for the c300-700 period, what has been learned thus far shows that there was progressive development of intra- and inter-zonal commerce in the southern Sahara, sahel, savanna, and northern savanna-woodland zones. Jenne-

jeno grew rapidly after c400 A.D., attaining its maximum size by c800 A.D. It and other riverine communities expanded their functions as commercial centers expediting intra- and inter-zone commerce, and as centers of artisanal production by smiths, potters, leatherworkers (?), and by the tenth (?) century, weavers.

While there is as yet no evidence from archaeological sources of trade between the savanna-woodland zone and the bend of the Niger area, reference to Map #1 shows that increased rainfall during the c300-700 period and consequent northward movement of ecological zones would have made kola, malaguetta pepper, and other commodities more easily available by means of riverine commerce, such as is known to have been the case during the c700-1100 period following.

The same may be said for trading communities living along the Senegal River and its tributaries. There is a paucity of information from archaeological investigations in Senegambia relating to the c300-700 A.D. period, but after reviewing the available evidence Calvocoressi and David conclude:

> It is already clear that the first half of the 1st millennium A.D. saw a rapid increase in the population of Senegal, and that by about A.D. 500 large communities organized in complex societies were engaged in inter-regional and inter-areal trade in sea salt, the dried flesh of shell-fish, iron, copper, gold and semi-precious stones. 21

Archaeological information concerning groups in Senegambia and the Guinea-Bissau region during this period and the c700-1100 period is reviewed in the Language section of Part II following.

As yet little is known concerning the participation of western Africans in trans-Saharan commerce during the c300-700 period. The

Vandal invasion of North Africa beginning in 429 A.D. disrupted the minting of gold coins at the Carthage mint, but to what extent trans-Saharan trade was affected during the period of Vandal occupation remains to be determined. The Carthage mint was reopened in 534, following the Byzantine conquest of Tunisia. The Byzantines struck gold coins until 695, when Muslim Arabs conquered the Maghreb. 22

The Arab conquest of North Africa marked the beginning of an era of expanding trans-Saharan commerce and social and cultural exchanges. Garrard's investigations have adduced considerable evidence for the North African side, notably that increasing quantities of gold were brought across the Sahara from the fourth century for minting coins and other purposes, but the sources of the gold have yet to be established. There are numerous gold deposits of varying significance in West Africa, but which were earliest exploited is unknown. Oral traditions and Arabic sources dating to the eighth century relate that the principal gold field in western Africa was in the Bambuk area along the Faleme River, but relate nothing concerning when the area was brought into production. 23 It is evident, though, that once the rich Bambuk deposits were exploited, the large quantities of gold obtained must have contributed a significant stimulus to the development or trans-Saharan commerce and to the development of Ghana and Takrur discussed in Part II following.

When trade between the Niger and Senegal River systems developed is unknown, but west-east trade in salt produced by solar evaporation in the salt pans at the mouth of the Senegal River seems likely to have expanded progressively during the c300-700 period. Besides demands for human consumption, salt is required by pastoralists for

their herds of cattle. As related in Part II, early Arabic sources relate that there was a considerable salt trade along the Senegal River to meet the demands of gold miners in Bambuk, and the gold obtained in exchange seems likely to have been the principal (only?) source of supply for the Takrur state's participation in trans-Saharan commerce. The rare finds of gold in Senegambian archaeological excavations dated prior to c1,000 A.D. suggest that the gold was imported (from Bambuk?), and that the relatively insignificant gold deposits in Senegambia and the Guinea-Bissau region were not exploited until later dates, most likely following the arrival of Mande speaking smith-miners and traders during the c1100-1500 period.

II. WESTERN AFRICA c700-1100 A.D.; THE ERA OF SAVANNA ZONE STATE-BUILDING

The wet climate period lasting c700-1100 was characterized by far-reaching changes for the peoples of western Africa. Inter-zonal commerce continued to expand, trans-Saharan trade significantly increased, and the rise of Ghana, Takrur, and other sahel and savanna states fostered unprecedented social stratification and concomitant cultural developments.

Climate and Ecology.

There was significantly greater rainfall in western Africa from c700-1100 A.D. than for more than a thousand years preceding, or for any period since. Consequently, the rain forest, savanna, and sahel zones advanced much farther northwards than they extend today (compare maps #1 and #2). Everywhere rivers, streams, and lakes became navigable for greater distances and longer periods of the year, facilitating commerce and supporting greater numbers of fish, shellfish, aquatic mammals, and waterfowl.

The spread of a sahelian environment north of the Senegal and Niger river bends fostered the expansion of trans-Saharan trade with North Africa, stimulating the already flourishing commercial networks along the rivers linking people of the desert, sahel, and savanna zones. Moist conditions in the Sahara created pasturelands that encouraged its settlement by Berber and Soninke pastoralists and facilitated the southward diffusion of horses, which animal had been virtually reintroduced to North Africa at the time of the Arab

conquest during the seventh century. The build-up of horse herds in the Sahara and sahel zone enabled predatory warrior groups to create conquest states across the sahel and northern part of the savanna zone.

Berbers maintained a monopoly over camel-keeping in the Sahara, but not horse-breeding in the sahel zone. North of the Senegal River horse breeding and trading was controlled by Berbers, but Soninke became the principal breeders and traders in the Saharan and sahelian pasturelands extending between the upper Senegal and Niger Rivers. Notwithstanding that these areas were free of tsetse infestation, horses did not breed as prolifically as in North Africa (or more favorable environments elsewhere in the world). Consequently, in western Africa horses remained in short supply with demand great, especially from warrior elites. Berber and Soninke horse breeders protected and enhanced their markets by selling only stallions in limited numbers thereby maintaining high prices and at the same time ensuring their military ascendancy over potential adversaries.

Fula groups herding zebu cattle in Senegambia were especially challenged by by changing ecological conditions during the c700-1100 period as the 1,000 mm "tsetse fly line" advanced progressively northwards towards the Senegal River (compare maps #1 and #2). As a consequence, groups practicing independent pastoralism with zebu cattle were constrained to migrate eastwards. As Map #2 shows, eastward migration in the savanna zone was the only viable option: horse-owning Berbers and Soninke could defend sahelian pastures, while the advancing "tsetse fly line" barred migration southwards. Fula and zebu thus began migrations which ultimately reached the highlands of

Cameroon, more than three thousand kilometers from Futa Toro.

Fula groups with ndama cattle practicing mixed herding and cultivation were not constrained to migrate, and continued to live in Senegambia while increased rainfall changed the ecology from savanna to savanna-woodland — and Wolof speaking cultivators spread northwards amongst them.

One may suppose that humans, domestic animals, and domesticated plants underwent significant adaptations to changing ecological and epidemiological conditions during the c700-1100 wet period, changes that would have begun during the c300-700 period as rainfall increased. Humans and domestic animals experienced increased risks of infection by trypanosome-carrying tsetse and malaria-bearing anopholes mosquitos, plus other tropical diseases. The progressive "acclimatization" to wetter environments of humans, ndama cattle, donkeys, goats, and other domestic animals living in areas that changed from a savanna and savanna-woodland ecology during the c700-1100 wet period contributed to the rapid settlement of the Futa Jallon massif by Fula and Mande speaking groups during the c1100-1500 dry period following.

It would seem likely, too, that cultivation of rice (Oryza glaberrima) diffused widely across western Africa during the wet conditions of the c700-1100 period. Cultivators of millet and sorghum would have found these crops less and less productive compared to upland rice as the climate became increasingly moist and vegetational zones shifted northwards. Adoption of upland rice provided an alternative to northward migration. The diffusion of rice growing west-southwestwards from the bend of the Niger area to the tributaries of the upper Senegal and upper Gambia River systems may have accompanied

the westward expansion of Mande trading networks discussed in the section following. 24

Ghana, Takrur, and the Berber 'Connection'.

The c700-1100 wet period is pre-eminently known as the era of the Ghana Empire, with its "capital", Kumbi-Saleh, situated in the savanna zone between the "bends" of the Niger and Senegal Rivers. Ghana's rulers and traders exercised an intermediary role in commerce between western Africa and the trans-Sahara trade with North Africa. To the west of Ghana's territory lay a number of states, the most notable being Takrur in Futa Toro along the middle reaches of the Senegal River.

The origins and early development of Ghana and Takrur are obscure and are the subject of much ongoing scholarly speculation concerning the respective roles of Berber and Soninke groups. Whatever may be the case for Ghana's origins, the earliest radiocarbon evidence for Kumbi-Saleh dates to the sixth century A.D., and the earliest Arabic sources dating to the 770s relate that Ghana was ruled by Soninke of the Sisse clan. 25 From the time of Arab control of North Africa possession of horses was an important element in the Sisse dynasty's power and prestige, a theme discussed in the c1100-1500 historical period following.

Much less is known concerning Takrur and the history of the Senegal River valley during the c700-1100 period. Traditions attribute the founding of the Takrur state in Futa Toro to Dya'ogo conquerers in

the mid-ninth century, the Dya'ogo presumably subordinating Fula speaking groups living along both (?) banks of the Senegal River. The Dya'ogo reportedly came from the Hodh region north-northwest of Kumbi-Saleh and are thought to have been "whites," thus presumably Berbers, but they may have been a Soninke group; indeed, such seems suggested by the name Dya/Dia (see following).

Traditions relate that during the latter part of the tenth century Takrur's Dya'ogo dynasty was overthrown by the Manna, who are identified as a branch of the Nyakhate clan which ruled Dyara, a Soninke state which controlled the territory between Ghana and the upper Senegal River. 26 Once again Dya/Dia is prominent in the historical account.

Whatever the historical reliability of the Dya'ogo and Manna traditions may turn out to be, the inhabitants of the Senegal River valley continued to speak Fula, a West Atlantic language. And so in time evidently did the intrusive conquering groups, whether Berber or Soninke in origin. Seemingly the most significant and lasting consequence of the Soninke conquest was in the social sphere, with the implantation of the Mande tripartite social system discussed in the section following.

Arab sources relate little concerning Takrur and the Senegal River valley during the c700-1100 wet period. The most informative source is Al-Bakri, who wrote c1068. According to Al-Bakri, the area along both sides of the mouth of the Senegal River was controlled by the Godala group of Berbers. They mined the Awlil salt deposits along the coast just north of the mouth of the Senegal, and controlled a coastal trade route that linked southern Morocco.

Godala territory bordered that of Takrur, and Godala caravans traded salt mined at Awlil along the north bank of the Senegal. River craft offer significant advantages over caravans carrying bulk commodities like salt, and it seems that Takrur's principal commerce was expediting salt eastwards along the Senegal River. Takrur's strong Berber "connection" is evident from the location of its capital close to Podor in the western part of Futa Toro, and from the early conversion of its ruler and people to Islam. Warhabi b. Rabis, the first Muslim ruler, died in 1040-41, and Al-Bakri asserted that the people of Takrur afterwards became practicing Muslims. 27

The onset of the c1100-1500 dry period would have contributed to making Takrur independent of salt supplied from Berber-controlled Awlil. Seemingly, large-scale exploitation of the salt flats at the mouth of the Senegal River date from this time, which production by solar evaporation promoted riverine commerce in salt and in dried fish and mollusks (compare Map #2 and #3).

East of Takrur was Sila, which likewise had territory on both sides of the Senegal River. Its capital was probably west of Bakel. Al-Bakri relates that its population was nearly equal to that of Ghana. Sila was rich in sorghum, salt, copper rings, and cotton cloth. Sila's inhabitants were also Muslim, allegedly converted to Islam by Warjabi b. Rabis of Takrur. The distance between Sila and Kumbi-Saleh, Ghana's capital, was reckoned twenty days' march and the territory was chiefly inhabited by non-Muslims with whom the ruler of Sila warred.

One day's travel to the east of Sila along the Senegal River was the town of Qalanbu, and near it was TRNQH, "a vast place" where much

cotton cloth was produced. To the east of TRNQH lay the region of the Zafqu and the adjoining land of the Farwiyyum, both of which were in Bambuk. In Farwiyyum, according to Al-Bakri, salt was exchanged for gold. 28

Al-Bakri does not adduce the link, but one may suppose that the gold exchanged for salt--presumably obtained via Takrur--was transported westwards along the river to Takrur and sold to the Godala Berbers. The paucity of gold finds in archaeological sites in Senegambia during the c800-1100 wet period strongly suggests that groups living south of the Senegal River were, at most, marginally involved in the east-west Senegal River commercial network during this time period. Circumstances radically changed during the c1100-1500 period following.

Al-Bakri attributed marvelous happenings to the lands of the Zafqu and Farwiyyum. The ruler of the latter had exclusive use of the roots of a plant which bequeathed incomparable virility, while the people of Zafqu paid tribute to an enormous serpent that lived in a cave in the desert -- or rather left their offerings at the mouth of the cave where lived the leaders of the snake cult. When the Zafqu ruler died, the snake selected his successor by prodding one of the candidates with its nose, after which the selected man pulled as many "hairs" from the monster's "mane" and tail as possible, each hair guaranteeing one year's reign. Al-Bakri's account of the wondrous serpent would seem to be associated with the Great Python Society discussed following. 29

Takrur's subordinate position vis-a-vis Ghana with respect to trans-Saharan trade would seem to explain a pattern of augmenting

Takrur-Berber links during the eleventh century. As previously noted, Takrur's ruler and people became converts to Islam from the mid-eleventh century. This occurred around the same time that the Soninke rulers of Ghana seized from Berber control the strategic Awdaghost oasis some 300 kilometers to the north-northeast of Takrur's territory along the Senegal River. Ghana's initiative is considered a principal factor in galvanizing the Berber groups living in the Sahara to unite under the leaders of the Almoravid movement. It was in Takrur that the Almoravid leaders rallied their followers and launched the campaign that recaptured Awdaghust in 1055/1056, afterwards seizing Sijilmassa, the Moroccan terminus of the principal trans-Saharan caravan route. 30

It might be supposed that Takrur benefitted vis-a-vis Ghana from the victories of Berber allies. From what can be gleaned from a mid-twelfth century Arabic source, it seems that Takrur's economic sphere expanded along the upper Senegal River as far as Barissa, near the Bambuk gold fields. 31

Until recently scholars have credited evidence suggesting that Almoravid forces captured Kumbi-Saleh in 1076-1077 and forced its inhabitants to convert to Islam. This view has recently been challenged by Humphrey J. Fisher, who argues that such did not happen and that the conquest of Ghana was achieved by Soso/Susu, which developments are discussed in the c1100-1500 historical section.

To relate the foregoing to ecological factors, it is noteworthy that the Soninke-Berber conflicts in the sahel and Sahara occurred during the second half of the eleventh century at the close of the c700-1100 wet period when sahelian and Saharan pastures, water

sources, and water tables supplying wells were presumably the best they had been for centuries — and perhaps ever afterwards. Indeed, the Almoravids and their livestock suffered greatly from diseases prevalent in the savanna zone during raids southwards against the Soninke of Ghana — just as the Moroccans did centuries later during the c1500-1630 wet period. 32

Ghana, Takrur, and the Mande 'Connection'

Arabic sources and archaeological sites excavated to date provide little information concerning the development of commercial links between trading centers along the Senegal and Niger rivers and people living to the southwards. That rulers, traders, artisans, and other elements living in market centers provided a growing market for spices, indulgents, and luxuries of all sorts imported across the Sahara is known from Arabic sources, but there are few details concerning kola, malaguetta pepper, and other products from the savanna-woodland and forest zones. When such became articles of commerce among people living in the savanna, sahel, and Sahara remains a matter of speculation. While it is known that kola and malaguetta pepper were transported across the Sahara to Morocco and Algeria from at least the twelfth century, nothing is recorded concerning where the supplies came from, or by what routes through western Africa.

Available evidence suggests that trade routes linking the savanna, savanna-woodland, and forest zones were pioneered by Mande speaking traders following the Faleme and Bafing tributaries of the upper Senegal River and the Tinkisso and other tributaries of the Niger

River. As Map #2 shows, the savanna-woodland and forest zones extended far to the northwards during the c700-1100 wet period, facilitating such commerce. As related following in the section on language groups, it would seem that the development of the Susu and Vai-Kono languages is related to expanding trade networks along the upper Senegal and upper Niger respectively.

From whom did Mande speaking traders obtain kola, malaguetta pepper, and other savanna-woodland and forest products? Evidence is lacking for the c700-1100 period, but the most likely supposition is that it was from the same West Atlantic speaking groups that were involved in such commerce during the c1100-1500 period following, Landuma and Temni most notably.

Reference to Map #2 and Map #4 depicting where kola has flourished in recent times suggests that the upper Senegal trade network may have controlled the greater part of the kola and malaguetta pepper trade during the c700-1100 period. As Map #4 shows, kola trees grow as far north as the Casamance River and across the middle of the Futa Jallon massif, but the most productive stands of trees begin farther south along the southern border of Guinea-Bissau. Malaguetta pepper bushes require a more humid climate than kola trees, and in contemporary times the lower reaches of the Nunez River approximate the northernmost stands of malaguetta pepper bushes along the Upper Guinea Coast. By far the most productive area for malaguetta pepper begins much further south around Cape Mount, extending along the coast of Liberia.

Thus, in recent times the borderlands of Guinea-Bissau and Guinea-Conakry represent the northernmost region where both kola and malaguetta pepper may be obtained in close proximity. Reference to

Map #1 and Map #2 shows that during both the c300-700 and c700-1100 periods, the 2,000 mm isohyet delimiting the transition between the savanna-woodland and forest zones passed through these borderlands, suggesting that it would have been a very promising region for commercial exchanges. Available historical evidence supports such a hypothesis, with the Kade area serving as a center for inter-zonal commerce.

Kade is strategically sited at the head of navigation of the Corubal River on the northwestern outliers of the Futa Jallon massif, and possibly constitutes one of the oldest crossroads of western Africa trade routes. Trade in the area in ancient times is indicated by deposits of stone flakes in the neighboring Badiar escarpment, remains of stone tool-making of undetermined antiquity. Kade is the site of salt springs, a resource that would have constituted a valuable item of trade from earliest times. 33

When Kade became a crossroads for long distance commerce is unknown, but the c700-1100 period seems likely. Map #2 shows that Kade would have been on the frontier of the savanna-woodland and forest zones during the c700-1100 period, well sited to expedite trade between the two zones.

Oral traditions and Portuguese sources relate that during the c1100-1500 period Landuma territory extended from the upper Numez River (the present-day location of Landuma) along the upper reaches of the Corubal River to the vicinity of Kade, which territory was then inhabited by Biafada/Badyaranke. Landuma possibly also inhabited the northwestern part of the Futa Jallon massif in this period, whence other trade routes may have linked the upper Senegal commercial

network.

Biafada/Badyaranke and Landuma belong respectively to the Northern and southern branches of West Atlantic languages (see language section following). The Kade area thus comprised both an ecological and a linguistic frontier. One may speculate that there were other developing centers of trade along the northern fringes of Futa Jallon during the c700-1100 period, most likely along the upper reaches of the Faleme River, but evidence is lacking.

If Landuma are the most likely trade intermediaries supplying kola and malaguetta pepper to the upper Senegal River commercial network, Temni groups living in the northeastern part of the Futa Jallon massif may have furnished kola (and less likely malaguetta pepper) for the upper Niger commercial network. Temni traditions relate that in former times Temni groups lived in the midst of Futa Jallon; and the movement of Temni to the southern fringes of the massif to dwell in the area of the Kolente and Little Scarcies rivers among some of the most productive stands of kola trees anywhere in West Africa seems likely to correlate with the c1100-1500 dry period and the consequent extension of trade routes as ecological zones moved southwards. (see Map #4).

What was exchanged for kola, malaguetta pepper, and other savanna-woodland and forest zone products? Archaeological sites in Senegambia dating to the c700-1100 period show that iron products were especially prominent among grave goods, plus gold and other items of jewelry. Towards the close of the c700-1100 period, cotton cloth probably became an increasingly important item of commerce between the savanna zone and the savanna-woodland and forest zones.

The history of the spread of cotton growing and cloth manufacture in western Africa remains to be delineated. While a species of cotton is indigenous to West Africa, the art of weaving is thought to have been imported. On reviewing available evidence, Marion Johnson speculates that the narrow horizontal loom operated by male weavers was diffused across West Africa from east to west during the tenth century, or earlier, by weaver-traders attracted to the gold fields of Boure and Bambuk (Map #5).(34) This chronology is congruent with Al-Bakri's information (written c1068) concerning cotton production in the upper Senegal area and with the earliest find of cotton cloth in western Africa thus far, a fragment of cloth at Sine-Ngayene along the upper Gambia River dated to the end of the eleventh century. 35

Kola-derived dyes are widely used for coloring cloth in shades of yellow-brown, but indigo has long been the principle dye used for cotton textiles in western Africa, producing a range of colors from light blue to blue-black. Whether weaver-traders introduced Asian-derived indigo remains to be determined. There are several indigo (Indigofera) plants used for dying cloth in West Africa, but the most widely used in recent historical times are I. tinctoria, considered indigenous to Asia, and I. suffruticosa, introduced from tropical America in Portuguese times. I. tinctoria thrives in humid environments with considerable rainfall. 36 Conceivably, the c700-1100 wet period may have provided sufficiently propitious conditions for its diffusion westwards from the Nile Valley; alternatively, the diffusion of I. tinctoria in western Africa may date to Portuguese times.

Once established, cotton cultivation, textile manufacture, dying, and concomitant commercial exchanges constituted one of the chief

economic motors of intra- and inter-regional commerce. Elements of prestige and display are important no less than utilitarian concerns, for the quality, style, and decoration of a person's garments differentiate social position and wealth; for elites, price was and is no object. 37

Johnson's postulated diffusion of textile production from east to west is congruent with other historical developments previously mentioned, e.g., the spread of camel keeping from east to west, the development of Jenne-jeno and other trading communities along the bend of the Niger prior to any yet found to the westwards, and the movement of Mande speaking smiths and traders westwards into the Bambuk area. Johnson's speculation that the spread of cotton production is associated with traders involved in gold trade may be linked to the westward diffusion of Soninke traders from Dia/Ja, a community located near the western apex of the Niger bend whose inhabitants are famed for their supernatural powers, traditional and Muslim both (note previous references in this section to Soninke ruling groups associated with the related [?] names Dya'ogo and Dyara). Soninke traders who moved from Dia to Jahaba on the Bafing River came to be known as Jahanke, and the Jahanke trade route westwards from Jahaba to the Gambia River (established during the c1100-1500 period when the route lay in the savanna zone?) was principally based on the exchange of textiles for salt. 38

Socio-Cultural Paradigms.

Insofar as is known, the social and cultural attributes of Mande

and West Atlantic speaking groups during this period included matrilineal descent patterns, acephalous political institutions, and community-focused religious practices.

Two socio-cultural paradigms of immeasureable significance diffused widely in western Africa during the c700-1100 historical period. The origins of both almost certainly date to much earlier times. The first paradigm involves "landlord-stranger reciprocities" which promote safe travel and settlement for "outsider" groups; the second involves beliefs concerning spiritual and magical powers attributed to male and female smiths which became "institutionalized" in the societies in which smiths performed the circumcisions and excisions marking the transition from child to adult status, and in which smiths exercised leadership roles in "power associations," notably Komo, Simo, and Poro.

The origins of landlord-stranger reciprocities are lost in antiquity and are incorporated into the fundaments of the societies of western Africa. Travellers of whatever sort — traders, herders, hunters, religious specialists, uprooted migrants -- were, and are, provided food, lodging, and security of possessions. Hospitality and appropriate behavior towards strangers is ensured by the responsibilities of kinship affiliations (real and fictive), by customary law supported by divine sanctions and reinforced by long usage, by the socialization ot children, and by oft-repeated sayings, proverbs, and heuristic stories. Concomitantly, the behavior of strangers is conditioned by all ot the foregoing, from being dependent on hosts for food, shelter, land, access to commercial networks, and other resources, and from respect for the spiritual powers wielded by land-

lords through their associations with the spirits of an area, especially through the mediation of ancestral spirits.

Special attention was paid to strangers who brought wealth in the form of trade goods, livestock, or other possessions; those who had special powers and skills, such as smiths, oracles, and marabouts; or those who were members of elite groups from neighboring communities or other societies. The privilege of according hospitality to them was generally arrogated by community leaders, elders, and other influentials wno anticipated valuable benefits such as collecting tariffs, receiving presents, sharing the profits of commercial exchanges and/or acting as middlemen with local and neighboring groups, and the advantages of fostering good will and alliances with other elites.

The significance and pervasiveness of landlord-stranger reciprocities are evident from oral traditions, Arabic sources, and European accounts. Mande traditions dating to the fourteenth century recounting the life of Sundiata relate examples of hospitality afforded Sundiata and members of his family during their time of exile, notwithstanding the retributions threatened by their implacable enemy Sumanguru. The famed Berber traveller, Ibn Battuta, who had visited many places in North Africa, the Middle East, and East Africa, during the mid-fourteenth century marvelled that trade routes and settlements in western Africa were eminently safe for travellers, and should strangers die their possessions were carefully preserved until their heirs or their agents could claim them. 39 Depending on the area, such codes of hospitality towards strangers long survived even the consequences of the development and progressive increase of the Atlantic slave trade which compounded the strife and social disruption

already associated with the trans-Sahara trade in captives. Fr. J.B. Gaby, a French priest who visited Senegal in 1686, described what he had learned or West African travel:

> Some [Senegalese] go to Mecca to visit Mahomet's tomb, although they are eleven or twelve hundred leagues distant from it; and as they go there on foot and through the deserts one can well imagine that they are very often exposed to suffer both hunger and thirst; this they might avoid if they made a few preparations when setting out from their homes. What prevents them from doing this is their knowledge that hospitality reigns so truly among their people that passing travellers, whether on a journey or on business, are always well received, and on departing settle their accounts by a blessing; "Farewell and peace be with you; I pray God to preserve and keep you always." 40

Fr. Gaby could not know that his account merely repeated what Ibn Battuta and other Muslims from North Africa had reported centuries before.

Among the social groups which travelled western African routes, smiths were accorded special treatment due to their redoubtable skills and powers. Only smiths know the secrets of iron-making and can secure the permission of spirits of land, water, and forest to mine ores, fell trees for charcoal making, and invoke their cooperation in the successful smelting and working of iron. Female smiths are often potters who likewise transform the basic elements of earth, fire, and water. Smiths carve masks, compound the ingredients of amulets, and preside at religious ceremonies, including circumcisions and excisions which mark entry into adulthood for boys and girls. In the daily life of their communities, smiths intervene to halt conflicts and mediate disputes, for no one presumes to challenge their authority.

Smiths jealously guard their professional secrets by endogamous

marriages and by passing their skills from father to son, or to carefully selected apprentices. Everywhere the clan names Camara, Koroma, and Kante signal smith families (though not exclusively, and especially in recent times). Snakes are frequently (though not exclusively) the totems of smith clans.

When and in what circumstances iron-working spread in West Africa is not known. Scholars differ as to whether iron working (1) was introduced across the Sahara from Phoenician settlements in North Africa; (2) spread from the area of the upper Nile; or (3) was independently developed in northern Africa, possibly as a by-product of copper-smelting technology. At present the preponderance of evidence suggests that knowledge of iron working was brought across the Sahara by itinerant smiths, possibly during the time of the chariot routes (c600-400 B.C.).

As discussed in Part I, archaeological evidence indicates that smiths spread widely across the savanna zone and northern part of the savanna-woodland zone during the c300 B.c.-300 A.D. and c300-700 A.D. periods, prospecting, smelting, and working iron and gold. What is not known and can only be speculated about, is when and where did male and female smiths begin to perform circumcisions and excisions and, secondly, when did smiths become the founder(?)-leaders of "power associations"?

If smiths exercised no other social role than presiding at the most important ceremonies marking the passage from childhood to adulthood, then that alone together with their professional powers and secrets would have ensured their having influence second to no other social group. But there is much evidence to show that smiths also

wielded great and quasi-secret influence in another sphere -- that it was smiths who controlled the "power associations" which exercised unrivalled influence in many parts of Western Africa.

Masked individuals acting as agents of social control are widely associated with "secret" societies in western Africa, and such practices would seem to be of great antiquity. Masked figures are depicted in paintings found in the Sahara dating to the Atlantic Wet Phase, (c5500-2500 B.C). How the earliest masks were constructed is uncertain (basketry techniques?), but the spread of iron-working in the early centuries B.C. would have provided tools that enabled groups to develop the wide range of mask styles (and wood carvings) known to western Africa, e.g., small and large face masks, helmet masks, and tall vertical masks, as well as improve techniques of making raffia, bark, and other body coverings. All the foregoing are made of perishable materials, and it is only from the c700-1100 historical period onwards that Arabic sources, oral traditions, and European accounts contribute information concerning such matters.

Reference was made in a previous section to Al-Bakri's account of a great serpent to whom the people of Zafqu in Bambuk along the upper Senegal River paid tribute. Al-Bakri reports as follows:

> They are a nation of Sudan who worship a certain snake, a monstrous serpent with a mane and a tail and a head shaped like that of the Bactrian camel. It lives in a cave in the desert. At the mouth of the cave stands a trellis and stones and the habitation of the adepts of the cult of that snake. They hang up precious garments and costly objects on the trellis and place plates of food and cups of milk and intoxicating drink (<u>sharab</u>) there. When they want the serpent to come out to the trellis they pronounce certain formulas and whistle in a particular way and the snake

> emerges. When one of their rulers dies they assemble all those whom they regard as worthy of kingship, bring them near the cave, and pronounce known formulas. Then the snake approaches them and smells one man after another until it prods one with its nose. As soon as it has done this it turns away towards the cave. The one prodded follows as fast as he can and pulls from its tail or its mane as many hairs as he is able. His kingship will last as many years as he has hairs, one hair per year. This, they assert, is an infallible prediction. 41

One may speculate that the "snout" of the "snake" was the front of a helmet mask such as those associated with the Komo and Poro societies down to the present day; or perhaps a tall vertical mask such as the Simo society has among the Baga of Guinea-Conakry? The "hairs" of the serpent may be pieces of raffia pulled from the costume of the masked figure.

As related in Part III, a great calamity subsequently befell Soninke living in the Bambuk area with the slaying of a great serpent living in a river (not a cave in the desert). Moreover, the devastation by drought of the territory of the Ghana Empire and the termination of its gold resources is attributed to the killing of a large snake living in a well at Kumbi Saleh. Indubitably, the association of serpents with great powers is highly significant among Africans living between the bend of the Senegal and Niger rivers -- the homeland of Soninke speaking groups.

The spread of Islam has long since eradicated or greatly attenuated the influence of initiation societies among Mande speaking groups living in the sahel and savanna zones, but not among all Mande groups living in the savanna-woodland zone. The chief initiation

society that survives in non- or incompletely-Islamized areas is Komo, which was responsible for the education and induction into its membership of all male youths. Komo's leaders were, and are, responsible for inculcating and monitoring spiritual and moral values and acceptable social norms, eradicating witchcraft, and punishing transgressors of all types.

The leaders of Komo are smiths, and traditions related that Komo was organized by the renowned smith Fakoli Koroma, a sometime ally, sometime adversary of Sundiata Keita, founder of the Mali Empire in the thirteenth century. Fakoli is sometimes described as having a large and fearsome head, perhaps a reference to the awesome horizontal masks used by the Komo society. Fakoli's uncle and fellow smith, Sumanguru Kante, ruler of the Soso Empire, is explicitly identified with an enormous serpent, the most powerful of the "fetishes" kept in an infamous secret chamber. 42

Although information is sparse for recent as well as past times and much additional research and analysis is needed concerning these matters, there is much evidence that links serpents, smiths, and the Komo Society -- and with its offshoots (?) the Poro and Simo societies discussed in Part III following.

The account cited from Al-Bakri and oral traditions concerning the powerful serpents associated with Ghana and Bambuk strongly suggest that the Komo Society (or something like) existed among Mande groups in the c700-1100 historical period, and possibly considerably earlier. Further, it is plausible to suppose that wherever itinerant Mande smiths and traders formed communities, such as in the Bambuk mining field, they founded Komo lodges to exercise the same functions as in

their home areas: provide leadership to the community, mediate disputes, socialize children, and generally to maintain and disseminate Mande social and cultural patterns. Such activities represented the cutting-edge of what it later times Europeans would term "Mandinkization" -- a crass and inadequate term, but the active principle is manifest.

Specific to the Bambuk area, it seems likely that prior to the exploitation of its gold deposits some (most?) of its inhabitants spoke Fula (or other West Atlantic languages); alternatively, the area may have been a meeting ground, interpenetrated by groups speaking both West Atlantic and Mande languages. The rulers of Ghana prevented Berber and Arab traders from visiting Bambuk and reporting on circumstances there, but it is evident that by Arab times Mande speaking smiths and traders controlled the gold output. Drawing on Al-Bakri's account of the great serpent and priests of Zafqu and the discussion preceding, one may suppose that the Komo society exercised a notable role in controlling and socializing the local inhabitants, whatever their linguistic and ethnic derivations. As related in Part III, the awesome reputation and reputed powers of Komo, Simo, and Poro were of immeasureable value to Mande speaking smiths and traders during the c1100-1500 dry period when they moved southwards to settle amongst West Atlantic, Kwa, and Gur host societies.

Although little has been learned as yet concerning social and cultural developments among Mande speaking groups in this period, the growth of Jenne-jenno and other commercial centers along the Niger and Senegal rivers and state-building by "royal" clans and their entourages evidently fostered the formation of a tripartite social strati-

fication comprising (1) elites and free persons; (2) endogamous craft groups; and (3) domestic slaves (discussed in Part III). Only gradually over the centuries did Mande speaking groups become patrilineal, and the spread of Islam was perhaps a crucial factor; not until the 1100-1500 historical period did ruling elites and trading groups (but not other elements of society) adopt patrilineal practices concerning reckoning of descent, inheritance, etc.

Adoption of tripartite social stratification and patrilineal patterns among West Atlantic speaking groups correlate with circumstances of sustained relations with Mande speaking groups and the spread of Muslim beliefs and practices. Many West Atlantic groups remain matrilineal or practice mixed descent patterns down to the present.

Provisional Mapping of Language Groups, cB.C./A.D. ff.

One of the principal conundrums of western African prehistory concerns the locations of different language groups, the extent of their territory, and the relative densities of their populations. Available evidence indicates that the numbers of most groups were considerably smaller than in recent times. Generally it would seem that savanna-woodland and forest zones were very sparsely populated until iron tools became available. During the c1100-1500 dry period, and continuing down to the present, iron-wielding cultivators wrought great ecological changes, turning savanna-woodland into savanna, deforesting the Futa Jallon massif, and progressively eroding the northern margins of the forest zone.

Evidence from oral traditions and European sources shows that coastal-riverine West Atlantic, Gur, and Kwa speaking groups have had remarkable geographic stability during the past 500 years, though with some notable exceptions cited following. Much less is known or can be surmised concerning interior groups, but certain broad generalizations can be adduced from available evidence.

With respect to West Atlantic speaking groups generally, it would seem that they extended much farther eastwards than in recent times, perhaps occupying an area as far east as a north-south line drawn approximately between Bambuk and Cape Mount. During the past two millennia Mande groups have progressivly invested territory formerly occupied by West Atlantic and Gur speaking groups, advancing southwards especially rapidly during dry periods. It would seem, moreover, that in most instances West Atlantic and Gur groups did not leave the areas they inhabited, but were progressively assimilated by the incoming Mande groups.

While Mande speaking groups occupied much territory previously sparsely occupied by West Atlantic and Gur groups, they in turn contributed to the widespread diffusion of Fula pastoralists (who are West Atlantic speakers) in the hinterland areas of Senegambia and the Guinea-Bissau region, in the Futa Jallon massif, and in lands to the eastwards. These areas, once savanna-woodland and forest, were cleared by Mande speaking cultivators and by West Atlantic and Gur groups using tools made by Mande smiths, opening the way for their occupation by Fula herders. The consequences are especially noteworthy in the Guinea-Bissau region where Tenda-Jaad-Nun language groups were fragmented and many people assimilated by the invaders,

resulting in a mosaic of remnant populations scattered over many hundred square kilometers interspersed among Mandinka cultivators and Fula herders.

The discussion following attempts to identify language groups and their movements over the past two millennia combining linguistic, ethnographic, archaeological, and historical sources with a discussion of ecological changes. While there are many lacunae in data and numerous questions remain outstanding, especially for early times, linguists' reconstructions of language relationships are generally congruent with information concerning population movements derived from scholars in other disciplines.

West Atlantic Languages. The classification of West Atlantic languages presented following is derived and simplified from classifications published by J. David Sapir and J.L. Doneux (1978). 43 In some instances their orthography has been modified to correspond to that generally used by historians.

FIGURE #3

Northern branch

Senegal languages

Fula (including Tukulor)
Serer (including Niominka)
Wolof (including Lebou)

but see discussion following concerning classification

Cangin languages

Lehar, Safen, Non, Ndut (small remnant groups in the area of the Thies escarpment of west central Senegal that possess traits common to the Tenda, Bak, and Nun groups, principally the two latter)

Bak languages (lower Gambia to lower Geba rivers)

Diola (including Foni/Fogny etc., plus Bayot)
Papel/Manjaku/Brames
Balanta

Tenda-Jaad-Nun languages (Guinea-Bissau region)

Tenda: Tanda, Bassari, Coniagui
Jaad: Biafada, Badyaranke/Pajadinca
Nun: Banyun/Bianouk (including Cassanga and Cobiana)

Nalu (northwest Guinea-Conakry)

Bijago (isolated on Bissagos Islands)

Southern branch

Sua (Cunantes of Mansoa area of Guinea-Bissau)

Mel languages (Guinea-Conakry, Sierra Leone, and northern Liberia)

Temni, Baga, Landuma (including Tyapi)
Bullom/Sherbro, Kissi (including Krim along coast of Sierra Leone)
Gola
Limba (northern Sierra Leone)

Northern Branch of West Atlantic Languages. When the present-day locations of groups speaking Bak and Tenda-Jaad-Nun languages are viewed on a map, several salient features are evident. 44 Tenda-Jaad-Nun groups are scattered across the Guinea-Bissau region from the interior to the coast, while Bak groups are limited to the Atlantic seaboard between the Gambia and Geba rivers. Archaeological investigations, oral traditions, and early European accounts are congruent that many Tenda-Jaad-Nun groups occupied more extensive territories before the arrival of Mandinka cultivators and Fula herders, and that there have been significant population movements by Balanta and Diola in recent centuries.

Concerning Bak groups, Balanta territory once extended considerably farther eastwards, but these lands were invaded by Mandinka groups from the fourteenth(?) century, with remaining Balanta populations progressively absorbed by their conquerers. During the nineteenth century, Balanta groups expanded westwards along the south bank of the Casamance River seizing territory occupied by Banyun, and southwards investing lands belonging to some Papel groups along the Geba River.

By contrast, across the Casamance River to the north, Diola groups progressively expanded eastwards during the nineteenth century at the expense of Banyun groups to exploit lands suitable for rice growing. Diola success in cultivating both "dry" and "padi" varieties of African and Asian rice species (Oryza glaberrima and Oryza sativa) is the principal factor attributed to their eastward movement. Diola

adoption of padi rice growing may be tentatively dated to the c1100-1500 dry period, when desiccation promoted the development of new techniques to exploit swampy regions between the Gambia and Casamance Rivers. Diola movements eastwards date to the c1630-1860 dry period, when they settled the territory between the Gambia and Casamance rivers as far east as the Songrougrou River, which became the "frontier" with Mande speaking groups. Some Diola settled southwards across the lower Cacheu River, occupying Papel lands. 45

Tenda, Jaad, and Nun groups formerly occupied considerably more territory than is now the case. Tenda speaking groups are today reduced to small dispersed communities interpenetrated by Fula and Mandinka. In past times they occupied an arc of territory extending north-south through the hinterland of Senegambia and the Guinea-Bissau region.

Jaad groups formerly occupied much of eastern and southern Guinea-Bissau and contiguous areas of Guinea-Conakry and Senegal. Biafada/ Badyaranke, now separated by Mandinka and Fula speakers, comprised part of a swath of proto-Jaad speakers that extended from the mouth of the Rio Grande to an undetermined area eastwards of the Badiar escarpment. The small remnant Badyaranke groups are acknowledged by Mandinka and Fula to be the oldest inhabitants of the Badiar area. 46 As recently as the sixteenth century, Biafada occupied much of the land between the south bank of the lower Geba River and the Cacine River, eastwards along both banks of the middle and upper reaches of the Geba River to the head of navigation above Bafata, and along the Corubal River to the head of navigation at Kade. Much of this territory is presently inhabited by Mandinka and Fula.

Although now virtually extinct due to absorption by Diola, Balanta, and Mandinka, Banyun and other Nun speakers once occupied inland territory between the Cacheu and Gambia Rivers extending a considerable, but as yet undetermined, distance to the eastwards. Banyun trading communities were widely dispersed along the southern and northern tributaries of the Gambia River; Mandinka traditions dating to the thirteenth (?) century relate that Banyun were settled along Sine Bolong, a northern tributary of the Gambia River and part of a trade route linking the upper Gambia and upper Senegal Rivers. 47

Where Fula, Serer, and Wolof speaking groups resided in former times is less certain. Linguistic research by J.L. Doneux is especially interesting in this regard. Doneux differs with Sapir by questioning the appropriateness of a "northern branch" classification of West Atlantic languages comprising Fula, Serer, and Wolof, citing significant relationships between them and the Tenda and Nun languages. According to Doneux's research, Fula and Serer (which are closely related languages) derive from proto-Tenda (along with Tanda, Bassari, and Coniagui), but Wolof probably derives from proto-Nun (along with Banyun).

Doneux's findings are especially intriguing with respect to Wolof, as they suggest that the Wolof language developed along the Gambia River and that only subsequently did Wolof speakers migrate northwards to settle in northwestern Senegal driving a wedge between proto-Tenda speakers, Serer to the west and Fula to the east. When Doneux's findings are plotted on a map (Map #6), linguistic relationships become apparent that are of considerable interest for historians.

Doneux suggests no time-frame for the evolution of Wolof and

Banyun from proto-Nun, nor for the derivation of Fula, Serer, Tanda, Bassari, and Coniagui from proto-Tenda, but by examining his linguistic reconstructions along with archaeological data and climate periodizations the correlations indicate that the language differentiations occurred during the improving climate conditions after B.C./A.D. that culminated in the c700-1100 wet period, and suggest how and why they occurred as they did.

Archeologists studying the prehistory of Senegambia and the Guinea-Bissau region have as yet provided only preliminary and tentative classifications from surveys of historical sites and from the relatively few excavations thus far undertaken. 48 Four separate but partly overlapping archaeological zones have been delineated for Senegambia: (1) coastal shell middens; (2) "megalithic" sites along the north bank of the Gambia River; (3) tumuli, including large and small burial mounds extending north-northwest from the north bank of the Gambia River; and (4) a "zone of ancient metallurgy" along the middle reaches of the Senegal River (see Map #7).

(1) Coastal shell middens and associated burials have been radiocarbon dated from c200 A.D. to c1700 A.D. These have yielded iron tools and jewelry made of copper, shells, and glass, and one gold bead. Middens along the lower Casamance River have been associated with the ancestors of Diola groups presently residing in the area.

(2) There are thousands of lithic sites comprising stones of different sizes, singly and in groups, including more than 800 "stone circles" approximately four to six meters in diameter. Radiocarbon dates for excavated sites range from the second century B.C. to the twelfth century A.D.

"Stone circles" comprise burial mounds occupied by important personages accompanied by sacrificed (?) individuals, the mounds surrounded by quarried laterite pillars. Some of the dressed stones are Y-shaped, so-called "lyre stones." Besides skeletal remains, excavated sites have yielded grave goods that include iron spear heads, iron and copper bracelets and rings, glass beads, and small hatchets made of hematite ore. The identities of the people interred in graves remains to be determined. That smiths were directly associated with the "stone circles" seems certain: iron tools were needed to quarry and shape the laterite pillars of dressed stone, and it would seem highly unlikely that these and the iron artifacts found in the graves would all have been imported. It should be noted, however, that the dressed stones represent a difference in <u>degree</u>, not in <u>kind</u> of a widely diffused cultural practice (see following).

(3) Over 6,000 tumuli have been catalogued in Senegambia. Like the "stone circles", tumuli were constructed for important personages, the largest mounds ranging from six to eight meters in height and 50 to 80 meters in diameter. Tumuli located in the southern part of the "zone" are flanked by dressed stones, but such is not found in the northern part of the zone where stone is unavailable. Thousands of "tombelles," small burial sites are found in the southern part of the zone; these consist of single graves marked by unshaped stones.

Excavated tumuli have been radiocarbon dated from approximately the eighth to the thirteenth centuries. Grave goods include iron artifacts and beads and other ornaments made of gold, copper, and cornelian. A gold pectoral was found in one of the graves at Rao at the northern terminus of the zone.

(4) A "zone of ancient metallurgy" along the Senegal River is identified by village middens, pottery debris, and widespread iron working. To date little has been published concerning the area, but the reported sixth to eighth century A.D. dates correlate with the time of the Takrur state.

Scholars associated with Senegambian archaeological investigations have been reluctant to ascribe ethnic or linguistic identifications to skeletons excavated in different sites or to make other than very tentative correlations with data available from other disciplines. Scientific measurements of skeletons found in graves provide no conclusive evidence linking them to any present-day Senegambian group, due to variations in these groups.

When Map #7 showing the four Senegambian archaeological zones is compared with Map #6 depicting Doneux's linguistic reconstructions, some intriguing correlations are apparent. The zone of megalithic sites along the north bank of the Gambia River correlates with the area where the Wolof language developed from proto-Num, and where many Wolof have lived in recent historic times. The tumuli zone, which overlaps the western part of the megalithic zone and extends northwestwards to the mouth of the Senegal River, correlates with Wolof settlement patterns in central and northwestern Senegal in recent historic times. Note that the earliest dates ascribed for the construction of tumuli -- approximately the eighth century -- correlate with the c700-1100 wet period, a time when climate conditions in central Senegal would have been especially favorable for cultivators and increasingly unsuitable for pastoralists, especially those herding zebu cattle.

The following historical reconstruction derives from the foregoing discussion.

At the close of the long dry period commencing around c2500 B.C. and ending cB.C./A.D., proto-Tenda, proto-Num, and proto-Bak speaking groups lived approximately as depicted on Map #6. One may suppose that proto-Tenda groups (including some living in southern Mauretania) exercised the same options as other groups living along the southward moving Sahara-sahel borderlands during the period of desiccation -- they practiced hunting, fishing, gathering, cultivation, and stock raising (goats, sheep, and ndama cattle) as circumstances and resources might dictate. Assuming that rainfall distribution patterns in the Senegal area were similar to those in more recent times, the principal areas of settlement would have been along the Senegal River and its tributaries and the moister areas of western Senegal from Lac de Guier into the Sine-Saloum drainage system.

Southwards movement of proto-Tenda groups would have been arrested in the neighborhood of the Gambia River, where settlements of proto-Num speaking groups would have been fairly dense due to favorable agricultural conditions and adequate supplies of iron to till the soil and defend it. Iron weapons and other artifacts found in burial sites, plus quarried and shaped stones show that groups living along the Gambia River had sufficient timber resources for smiths to smelt and work iron.

Conditions for the introduction of zebu cattle (and donkeys) into northern Senegal by Berber herders were extremely favorable during the c300-700 A.D. climate period. Note on Map #1 that the 1,000 mm isohyet/"tsetse fly line" paralleled the Gambia River. Berber herders

intermingled with proto-Tenda groups south of the Senegal River (one linguist has characterized Futa Toro "a gentle Berber trap") and excellent pasturage in the Ferlo would have encouraged proto-Tenda groups to adopt a lifestyle of independent pastoralism with zebu cattle.

Climate conditions markedly changed during the c700-1100 wet period with the tsetse fly line moving northwards more than a hundred kilometers (compare maps #1 and #2), thereby greatly reducing the amount of tsetse-free grazing area in Senegal. Confronted with the impracticality of crossing the Senegal River and contesting pasture-lands with horse-owning Berber groups, Fula pastoralists migrated eastwards across the sahel and northern savanna zones, initiating an epic Volks-und-Zebuwanderung that ended centuries later and three thousand kilometers distant in northern Cameroon.

Where zebu cattle could not live, cultivators could thrive. Proto-Nun groups living on the north bank of the Gambia River would have been attracted to the increasingly well-watered lands extending to the northwestwards. Proto-Tenda areas under cultivation and more densely settled, i.e. the Sine-Saloum area, would have best resisted proto-Nun migrants, constraining them to a north-northwestwards diffusion pattern suggested by the tumuli zone depicted on Map #7. The tumuli zone zone thus represents a "wedge" of proto-Wolof migrants which separated proto-Tenda speakers into two groups, Serer to the west and Fula to the east. Following this analysis, proto-Tenda cultivators living to the east of the Ferlo and along the Senegal and Faleme rivers and their tributaries -- groups that did not adopt zebu cattle and independent pastoralism -- represent the ancestors of the

Tukulor and the Tanda, Bassari, and Coniagui groups, which latter were from the twelfth(?) century progressively interpenetrated and culturally absorbed by Mandinka cultivators and Fula pastoral groups.

When iron working was introduced along the north bank of the Gambia River among proto-Nun groups, and by whom, remains to be determined, but evidence from the "stone circles" suggests that iron-making contributed to social differentiation; given the influence smiths are known to have exercised among societies in western Africa, it seems likely that the elites buried in the "stone circles" composed of iron-shaped liths, come from their number. Iron-working seems indubitably to have been introduced to Senegambia from the east, very likely by itinerant smiths whose ancestors were Mande speakers. However, drawing on patterns in recent historical times, such itinerant smiths would have adopted the languages and cultures of the groups they settled amongst, while at the same time protecting their monopolies over smelting and smithing by means of endogamous marriage patterns and by incorporating apprentices into their ranks.

Whatever the social differentiation suggested by the burials, the "stone circles" and the tumuli offer important evidence for the continuity of cultural patterns, rather than their disruption by intrusive "outside" groups. If only one "stone circle" has been found south of the Gambia River, groups of commemorative stones and single stones of varying sizes are widely reported among Tenda-Jaad-Nun, Bak, and other West Atlantic speaking groups from Senegambia to Liberia. The stones are considered sacred and are believed to be the abodes of spirits, notably ancestors. "Stone circles" and tumuli with quarried and dressed stones would thus seem to represent only a qualitative

difference from stones used rough-hewn or in their natural state.

Even the distinctive "lyre-stones" seem not to be as distinctive as they would appear, for a number of societies south of the Gambia River which commemorate the dead with wooden posts, not stones, use forked Y-shaped stakes. The practice is reported among Papel, Diola, Coniagui, Badyaranke, and other groups. 49

That the practice of making "stone circles" was not diffused northwards across Senegal may be explained by two factors: that suitable laterite stone was unavailable; and that few smiths migrated northwards from lack of exploitable iron deposits and/or shortages of timber resources to make charcoal for smelting. The absence of stone circles and tumuli south of the Gambia River would be explained by the absence of smiths. Seemingly, smiths did not settle south of the Gambia River until the c1100-1500 A.D. dry period, when diminishing woodlands in Senegambia constrained them to migrate southwards.

The end of stone circle construction along the north bank of the Gambia River during the thirteenth(?) century would seem attributable to the desiccation and southward movement of smiths already mentioned, and to the arrival of horse owning Mandinka warriors who founded conquest states and imposed new social and cultural patterns. The end of tumuli construction during the thirteenth(?) century in the area extending to the north of the Gambia River may be attributed to the spread of Islam, but this remains to be determined.

As previously remarked, scholars associate the shellfish middens and related burials along the lower Casamance River with the ancestors of Diola (Bak speakers) who have inhabited the area for millennia, and who are reputed the "original" inhabitants of the coastal area between

the Gambia River and the Cacheu River. There is, however, the anomaly that the areas of ancient shellfish middens north of the Gambia River -- in the Sine-Saloum estuary, on the Cape Verde peninsula, and at the mouth of the Senegal River -- have been inhabited in recent historic times by groups speaking Serer and Wolof.

A plausible explanation for the anomaly is that maritime groups associated with all the shellfish middens were originally Bak speaking groups which practiced an aquatic economy based on shellfish, fish, and salt-making by solar evaporation (especially in the more arid climate north of the Gambia River) and which exploited opportunities for trade in these and other commodities with neighboring coastal-riverine groups. During the past millennium, the northernmost of these groups were gradually absorbed linguistically and culturally (though not completely) by more numerous neighboring groups with whom they intermarried, while meantime maintaining their maritime orientation. Both the Serer-speaking Niominka who live on the Djomboss Islands in the Sine-Saloum estuary and the Wolof-speaking Lebou living on the Cape Verde peninsula and in the Senegal River estuary have continued a maritime way of life down to the present, as have some Diola groups living along the lower Casamance River and Papel groups living along the Cacheu and Geba Rivers.

As discussed in Part III following, all of these maritime groups were associated with the Banyun-Bak coastwise commercial complex in pre- and post-Portuguese times. One may take special note of the Bijago, who may be related to these groups; at present linguists accord them in a special "isolated" status among West Atlantic languages -- which linguistic and geographical status coincides with

their exclusion from the Banyum-Bak and Biafada-Sapi commercial networks, both or which they relentlessly pillaged from the fifteenth century onwards (if not earlier). 50

Southern Branch of West Atlantic Languages. Although there are some differences of opinion among scholars concerning classification of languages belonging to the Southern Branch of West Atlantic languages, e.g., the Mel languages, there are no major issues regarding historical reconstructions until the sixteenth century population movements associated with the "Mani invasions." These are discussed in Part IV.

The northern extension of Southern Branch languages correlates significantly with salient geographic and ecological features of western Africa: with the northwestern outliers of Futa Jallon; and with one of the ecologically most stable borderland areas in western Africa. Regarding the latter, Maps #1, #2, and #3 show that the savanna-woodland and forest zones may not have shifted more than a hundred kilometers north or south during different climate periods, circumstances that would contribute to stable settled populations. As previously discussed with respect to commercial matters, Landuma territory formerly extended along the Corubal River as far as the head of navigation at Kade, and some Landuma groups lived in neighboring areas of the Futa Jallon massif. Temni claim that their ancestors lived in Futa Jallon before moving to the foothills south and southeast of the massif. The present location of Limba groups in northern Sierra Leone surrounded by Mande speaking groups testifies to the eastward extension of West Atlantic groups in past times.

The foregoing may be considered together with Map #2 which suggests that during the c700-1100 wet period rain forests extended more than 200 kilometers north of where Limba live today and more than four hundred kilometers to the east. One may speculate that the ancestors of Landuma, Temni, Limba, Kissi, and Gola speakers once lived scattered through this vast rain forest zone, with groups living along the northern margins of the forest zone likely involved in bartering savanna-woodland products for forest products, plus salt and dried fish transported up the Geba, Corubal, Nunez, and other rivers. Mel languages spoken among coastal-riverine groups would seem not to have become clearly (for Europeans) differentiated until recent historical times. Portuguese sources indiscriminantly refer to coastal-riverine groups along the Upper Guinea Coast south of Cape Verga as Sapi; not until the eighteenth century did European sources consistently distinguish between Temni, Bullom, etc. 51 An alternative explanation for the "late" separation of Mel languages would be that coastal-riverine groups shared ancient links such as those suggested above for Bak groups in Senegambia and the Guinea-Bissau region, and that they were only gradually assimilated linguistically by interior groups speaking Mel languages which had long since become differentiated. The arrival of Europeans would have provided the impetus for groups living in the interior to push to the coast, absorbing socially and culturally (including linguistically) sparsely settled coastal-riverine communities.

The Gola people represent the southernmost extension of the Southern Branch of West Atlantic languages. In past times, their territory seems likely to have extended farther to the south and east, before

Kwa speaking groups settled the coastal-riverine area of northern Liberia — seemingly sometime during the c1100-1500 period, as discussed in Part III. Whatever the case, available evidence indicates that the forest zone was very lightly populated down to recent times, at least until the c1630-1860 period.

Mande languages. The following listing of Mande languages is derived and simplified from classifications published by Joseph Greenberg and Charles S. Bird. 52

FIGURE #4

Northern sub-group
- Soninke (sahel zone and oases in Mauretania and Mali)
- Mandekan: Mandinka, Maninka (including Kuranko), Bamana (including Dyula of Ivory Coast), (savanna and savanna-woodland zones from the Atlantic to the Volta River)
- Susu/Jallonke/Yalunka (coastal region of Guinea-Conakry and northern Sierra Leone)
- Vai/Kono (eastern Sierra Leone and southwest Liberia)

Southeastern sub-group
- Busa (northwestern Nigeria)
- Bisa, Samo, Sya (Upper Volta)
- Mwa, Nwa, Kweni/Guro, Dan/Gio (central Ivory Coast)
- Mano (north-central Liberia)

Southwestern sub-group
- Kpelle/Guerze, Loma/Toma, Gbandi, Gbundi (Liberia)
- Mendi, Loko (Sierra Leone)

Insofar as linguistic analyses and archaeological research inform historical reconstructions, it may be inferred that Proto-Mande speakers inhabited the southern Sahara and lands between the bends of the Senegal and Niger Rivers during the wet phase that began around 10,000 B.C. Subsequent migrations to the southwards scattered Proto-Mande speakers widely, resulting in numerous dialects that linguists

classify in three sub-groups.

When and in what circumstances Mande-speaking groups reached their present locations are major issues under investigation by scholars in several disciplines. The following analysis derives principally from the work of Greenberg and Bird concerning the separation and differentiation of Mande languages reviewed together with the provisional maps depicting ecological zones.

Proto-Mande migrations southwards apparently date to the outset of the dry period following the Atlantic Wet Phase (5500-2500 B.C.) when growing desiccation impelled people to move progressively southwards to seek new pastoral and agricultural lands. These migrations would have scattered proto-Mande groups widely, promoting the development of dialects and, over time, the languages classified as belonging to three sub-groups or Mande languages.

How far south proto-Mande groups migrated in early times is unknown, but it would seem likely that they ventured no farther south than the northern part of the savanna zone prior to the onset of increased rainfall around B.C./A.D. (see Map #3 and Figure #1). Migrations farther southwards seem improbable, for such would have meant adapting to new and unfamiliar environmental conditions with respect to cultivation and raising of livestock. Indeed, with the progressive increase of rainfall after cB.C./A.D., some groups presumably returned northwards to former areas of occupation.

Groups that remained in the more southerly areas during the increasingly humid climate which culminated with the c700-1100 wet period would have had to make significant adaptations to changing environmental conditions. One may suppose that during the period of

increasing rainfall from B.C./A.D. onwards, and especially during the c700-1100 wet phase, cultivators — Mande speaking groups and others — must needs have pioneered the development of new varieties of sorghum, millet, and upland rice suitable to the more humid climate conditions, as well as cultivating other plants and tending oil palm and karite/shea-butter trees. 53 Likewise, their ndama cattle, goats, and sheep would have had to acclimatize, the first two (but not sheep) acquiring immunities to tsetse-borne trypanosomes; note on Map #2 how far north the "tsetse fly line" (1,000 mm isohyet) may eventually have reached. Mande speaking groups associated with such changes would have been prepared to move south to new locations during the c1100-1500 dry priod and remain there afterwards.

To the ecological adaptations for Mande speaking groups, may be added the social, cultural, and linguistic consequences of spatial separation over centuries. By the end of the c700-1100 wet period, the northernmost and southernmost Mande speaking groups would have been separated by hundreds of kilometers and evolved significantly different lifestyles. Northern Mande speaking groups had acquired horses and zebu cattle from Berber nomads, and perhaps camels as well, while Mande groups overtaken by the northward-moving savanna-woodland zone possessed ndama cattle, goats, and other domestic animals resistant to trypanosomes, and cultivated varieties of sorghum, millet, and upland rice adapted to the prevailing humid climate conditions.

One may suppose that during this long wet period from the early centuries A.D. to the eleventh century A.D. there was increasing linguistic differentiation between widely scattered Mande speaking

groups, promoting the genesis of the three sub-groups classified by linguists: the Northern sub-group represents those Mande groups which remained in the Sahara and sahel; and the Southeastern and Southwestern sub-groups include Mande groups acclimated to living in the northward-advancing savanna and savanna-woodland ecological zones, some of whose members afterwards migrated southwards as these zones receded during the c1100-1500 dry period.

Concerning the Northern sub-group, the c700-1100 wet period plausibly was the time of separation of Soninke, Susu/Jallonke/Yalunka, and Vai/Kono. Language separation was promoted both by ecological change and by the expansion of commercial networks (including the movements of smiths). As the c700-1100 wet period continued, the progenitors of Soninke living in the southern Sahara and sahel were progressively separated over hundreds of kilometers from the progenitors of Susu/Jallonke/Yalunka and Vai/Kono living in the savanna zone along the upper Senegal and upper Niger rivers and their tributaries. The west-east bifurcation of Susu/Jallonke/Yalunka and Vai/Kono would seem to correlate, respectively, with the ongoing development of the commercial networks along upper Senegal and upper Niger and their tributaries, especially during the c1100-1500 dry period when the former settled in Futa Jallon and the latter in Sierra Leone and Liberia. Significantly, too, the area separating the watersheds of the upper Senegal and upper Niger rivers is the "core area" for the development of the fourth branch ot the Northern sub-group, Mandekan, probably during the c1100-1500 dry period.

How far south the progenitors of Susu/Jallonke/Yalunka and Vai/Kono advanced along the tributaries of the Senegal and Niger rivers

during the c700-1100 wet period remains to be determined, but the savanna-woodland zone extending across the northern outliers of Futa Jallon during this period (Map #2) would have suited the interests of both smiths and traders. The latter could have obtained kola, malaguetta pepper, and other savanna-woodland and forest zone products from Landuma, Temni, Gola, and other (?) West Atlantic speaking groups. Iron produced by smiths and gold mined by them, plus cotton cloth manufactured in the savanna zone, likely were the chief commodities West Atlantic groups demanded in exchange. Mande groups likely also traded maritime salt obtained via the long established west-east routes between the Senegal and Niger rivers, plus salt mined at Taghaza in the Sahara beginning sometime during the c700-1100 wet period. 54

With the onset of the c1100-1500 dry period, Mande speaking groups were subjected to new environmental challenges. Southeastern and Southwestern Mande speaking groups which had adapted to living in the savanna and northern part of the savanna-woodland zone would have had to migrate southwards in order to dwell in similar ecological conditions. Their propensity to migrate would have been additionally stimulated in some instances by the intrusion (and conflict?) occasioned by Northern Mande and Berber groups pushing southwards from the desiccating Sahara and sahelian zone (compare maps #3 and #2).

One may suppose that Southeastern and Southwestern Mande groups which migrated southwards during the c1100-1500 dry period did so relatively easily and expeditiously. They would have possessed cultivated plants and domesticated animals acclimated to savanna and savanna-woodland environments over many centuries, and such groups

would have had smiths skilled in smelting iron and making the tools requisite to clear and cultivate land.

The activities of traders and smiths would seem to explain why surviving Southwestern and Southeastern Mande groups are found in their present locations in West Africa. Except for the Busa in Nigeria, and the Bisa, Samo, and Sya in Upper Volta (all Southeastern Mande languages), all remaining Southeastern and Southwestern Mande language groups are located along the borderlands of the savanna-woodland and rain forest zones in the vicinity of the upper reaches of rivers draining to the Atlantic Ocean; and insofar as is known from historical records, they have been there since at least the mid-nineteenth century, i.e. the c1630-1860 dry period (compare Greenberg's Map A with Map #3).

With respect to Southeastern Mande groups, the Mwa/Nwa and Kweni/Guro live along the Bandama River and its tributaries; the Dan/Gio live along the upper Sassandra River; and the Mano live along the upper reaches of the St. John River. Circumstances are the same for Southwestern Mande groups: Kpelle/Guerze live along the tributaries of the Lofa River; and the Gbandi and Gbundi live along the tributaries of the Lofa and Moa Rivers. (Mendi and Loko settled in their present locations in the sixteenth century, and their migrations are discussed in Part IV).

Manifestly, all the foregoing groups are well sited with respect to trade between the savanna-woodland and rain forest zones with respect to the c1100-1500 dry period and the c1630-1860 dry period (see Map #3). These borderlands are suitable for the cultivation of crops and keeping of domestic animals used by Mande groups, and the

dry season is sufficiently long for smiths to make charcoal and smelt iron.

That Southwestern and Southeastern Mande trading groups did not penetrate the forest zone would seem because they were prevented by West Atlantic, Kwa, and Gur speaking groups which found it in their interest to keep trade in forest products in their own hands, plus the middleman role of supplying salt from the seacoast. An exception to this generalization and one that tests it is the expansion to the coast of Vai traders during the c1100-1500 period discussed in Part III.

Smiths provide unique and valuable services, and itinerant smiths were admitted to some West Atlantic, Kwa, and Gur speaking societies and became linguistically and socially integrated — except that because of their skills and reputation for manipulating occult powers, smiths arrogated the privileges of practicing endogamy, of exercising strict controls over apprentices, and of maintaining exclusive rights regarding their professional secrets. Among societies that accepted them, smiths founded branches of Komo, Simo, Poro, and other "power associations," as discussed in Part III.

What of the presumed "missing" Southwestern and Southeastern Mande groups that formerly inhabited the sahel, savanna, and savanna-woodland zones, and from which the present remnant groups presumably hived-off? The most plausible explanation is that these populations were linguistically and socially assimilated by Mandekan groups associated with the creation and expansion of the Mali Empire and satellite states. Discussion of the evolution and spread of Mandekan languages is deferred to Part III.

III. WESTERN AFRICA c1100-1500 A.D.;
THE ERA OF POWER ASSOCIATIONS AND MANDEKALU HORSE WARRIORS

Drought, desiccation, and far-ranging population movements characterize historical accounts of the c1100-1500 historical period. Diminished rainfall caused ecological zones to move southwards, perhaps by several hundred kilometers over four centuries. As a consequence, traders expanded the commercial networks linking the Niger and Senegal rivers farther and farther southwards to maintain connections between different ecological zones, which pattern of expansion was additionally stimulated by the ongoing increase of trans-Saharan commerce during this period. Smiths moved southwards to exploit woodlands for charcoal-making to work iron and to open new markets for their manufactures, while the areas they left — Senegambia and the lands extending eastwards to the north of Futa Jallon -- changed from savanna-woodland to savanna and became suitable for the growth of cotton and the production of large quantities of cotton textiles. Cultivators and herders likewise moved southwards, following the receding ecological zones suitable for their livelihoods.

During this historical period West Atlantic speaking groups organized coastwise and riverine commerce on a sustained basis, rationalizing what had formerly been short-range relay exchanges between neighboring groups. The advantages of maritime and riverine transport for bulk commodities became increasingly important as ecological zones moved southwards and the areas of iron production and the harvesting of kola and malaguetta pepper became farther and farther removed from the commercial centers along the Senegal and Niger rivers. Mande

speaking traders progressively expanded their caravan networks westwards and southwards to link the upper reaches of rivers navigated by West Atlantic and Kwa speaking maritime groups.

The most dramatic and far-reaching social and cultural changes of the c1100-1500 historical period are associated with Mandekan speaking groups, or the Mandekalu as they term themselves. From the time of the founding of the Mali Empire in the thirteenth century, Mandekalu horsemen conquered the inhabitants of the sahel and savanna zones and raided along the southward-moving boundaries of the savanna-woodland zone.

The Mali Empire and other Mandekalu-ruled states were characterized by tripartite stratified societies comprising elites and free persons; endogamous occupational groups; and large numbers of slaves, either captured during conquests or obtained in commerce. Bards exercised a notable role helping to create and articulate a Mandekalu "heroic age" by the praise poetry and music they created to celebrate the deeds of Mandekalu conquerors and to explain and rationalize the social and cultural patterns they imposed on subjugated peoples. Mandekalu conquests and Mande cultural imperialism were mutually sustaining.

Climate and Ecology

The beginning of the twelfth century, approximately, marked the onset of a drier climate pattern in western Africa that has continued with intermittant wetter periods down to the present day. Diminished rainfall, combined with overgrazing and burning-off of grasslands by pastoralists, improvident slash-and-burn land clearing by cultivators

plentifully supplied with iron tools, and widespread deforestation by smiths making charcoal for iron-working contributed to environmental degredation that progressively (and in some areas radically) changed the previously existing ecologies of western Africa. The human factor is as yet the most difficult to assess, but it seems likely that there were significant rates of population increase during these centuries which led to larger and larger areas of land under cultivation and increasing build-up of livestock herds, which growing demands on land use accelerated ongoing ecological changes.

During the c1100-1500 period the Sahara encroached into what had previously been a sahelian environment, herdsmen supplanted cultivators in what had hitherto been the southern part of the savanna zone and northern part of the savanna-woodland zone, cultivators moved southwards creating derived-savanna in what had been the savanna-woodland zone, and the forest zone receded as rainfall diminished and human settlement contributed to the erosion of the forest borderlands. By the close of the fifteenth century, the desert, sahel, savanna, savanna-woodland, and rain forest zones had moved southwards some hundreds of kilometers; so too had the population groups whose livelihoods depended on the different ecologies (compare Map #3 and Map #2, noting especially the projected southward movement of the savanna woodland zone).

Changing ecological conditions, migrations, and inter-mixing of populations had far-reaching consequences on language distributions and the diffusion of social institutions and cultural patterns. Mande speaking traders and smiths migrated far to the south, traders to maintain inter-zonal commercial links and smiths to exploit the most

suitable tree species for making charcoal to smelt iron. All available evidence indicates a period of dynamic growth in commercial networks linking ecological zones and increased volume of commerce between western Africa and North Africa via trans-Saharan routes. It seems likely that during the c1100-1500 dry period all or virtually all societies in western Africa were linked directly or indirectly by caravan networks and by coastwise and riverine commerce.

One of the most significant consequences of desiccating climate conditions was the southward movement of the "tsetse fly line" represented by the 1,000 mm rainfall isohyet (compare Map #2 and Map #3). Fula pastoralists herding zebu and ndama cattle migrated progressively southwards following by now well-established patterns of entering into symbiotic relationships with agricultural groups.

Land use patterns of both cultivators and pastoralists were influenced by the activities of smiths, for charcoal-making to smelt iron consumed large numbers of trees of selected species, accelerating the consequences of ongoing climate desiccation. Smiths moved progressively southwards, smelting iron in the savanna-woodland zone and along the northern margins of the forest zone. By the fifteenth century iron smelting (but not iron working) had virtually ceased north of the Gambia River and the Futa Jallon massif was a major area of production, with much iron carried northwards to areas of former production by overland caravan routes and via coastwise commerce.

Where smiths felled trees, they and other groups cultivated the soils. And where former woodlands and forest areas were cleared, herders with ndama cattle could follow. Fula traditions suggest that herders (with ndama cattle) first entered the Futa Jallon highlands

towards the end or the fifteenth century, but an earlier date seems plausible following in the wake of smith and cultivators. 55

More dramatic, and irreparably disruptive of the lives of numerous herders and cultivators dwelling in the sahel and savanna zones, were the activities of Mandekan speaking warriors who skillfully exploited the military potential of horse cavalry. Horse warriors pillaged widely across western Africa, and founded numerous conquest states. State-building fostered significant linguistic, social, and cultural changes among conquered Mande, West Atlantic, and Gur speaking groups, which are discussed in the social and cultural section following.

During the c1100-1500 dry period western Africa north of approximately the 16 degree parallel was preeminently the land of pastoralists, except for the Senegal and Niger river valleys where cultivators continued to prosper. Moors, Berbers, and Soninke raised camels, horses, donkeys, goats, and sheep in sahelian pasturelands and in the northern savanna zone. Camels expedited trans-Saharan trade, donkeys were the beasts of burden for traders travelling southwards through the savanna and savanna-woodland zones, and horses raised in the sahel provided the mounts for warrior elites who founded conquest states across the savanna zone and made forays into the savanna-woodland zone.

Sahelian horse breeders purposefully never entirely satisfied the demands of savanna warrior groups for cavalry mounts; they prudently controlled markets and maintained high prices by selling only stallions. Consequently a revolutionary change of circumstances ensued from the mid-fifteenth century, when Portuguese traders began selling large numbers of horses in Senegambia, in some areas significantly

changing previously existing balances of cavalry forces.

The Senegal and Niger river valleys continued to support intensive agricultural productivity during the c1100-1500 dry period and were the core areas of major states. Fula speaking (Tukulor) agriculturalists living along the Senegal River cultivated sorghum in the lowlands along the river, sowing the seeds as soon as the annual floods began to recede. Millet was grown in neighboring areas used alternately to pasture livestock. Lands along the "inland delta" of the Niger and its tributaries are some of the most productive cropland in western Africa and constituted the "breadbasket" of the Mali Empire. Besides sorghum and millet, upland rice and a variety of vegetables were cultivated, sustaining relatively large populations and providing significant surplus for trade. 56

During the c1100-1500 dry period cultivators inhabiting the shifting savanna and savanna-woodland zones diffused different varieties of millet, sorghum, and upland rice considerable distances to the southwards of where they had been previously grown. Probably the most notable agricultural evolution of this period was the development of "wet" or padi rice cultivation by Diola groups living between the lower Gambia and Casamance rivers where diminished annual rainfall rendered the area marginal for growing upland rice.

The Diola response to changed ecological circumstances was to undertake the laborious task of creating bunds, or polders, to retain rainwater and fresh water drawn off from streams and rivers. Water is impounded during the rainy season when the combination of high volumes of runoff and strong river currents combine to cleanse brackish water from all but the lower reaches ot the rivers and marigots (tidal

waterways) that interlace Diola areas of settlement. Diola pioneered the development of a number of varieties of rice for cultivation in soils with different fertility and degrees of salinity. They also follow strategies of devoting some land to upland rice, some to rain-fed polders, and some to river- and stream-fed polders with higher saline levels.

It would seem that the cultivation of wet rice did not spread extensively among Diola groups (or to non-Diola) before the onset of the ensuing c1500-1630 wet period when the less-demanding cultivation of dry rice would have discouraged growing the new wet rice varieties. With the renewed desiccation of the c1630-1860 dry period, Diola living between the Gambia and Casamance rivers greatly expanded their use of empoldered areas as they advanced eastwards, occupying lands as far as the Songrougrou River. Diola groups living between the lower Casamance and Cacheu rivers also adopted wet rice cultivation, likewise Papel and other groups living to the southwards along the Upper Guinea Coast. 57

Commerce and State-Building

Oral traditions, Arabic sources, and early European accounts all attest to expanding commercial networks during the c1100-1500 dry period. The inhabitants of western Africa were increasingly linked via caravan routes and coastwise and riverine commerce. Commercial centers became more and more numerous, especially in the savanna-woodland zone where Mande overland routes interconnected those of West Atlantic, Kwa, and Gur groups at or near the head of navigation of rivers and streams. Commodities from each ecological

zone were made increasingly available in other zones, and western African products were transported across the Sahara Desert in growing quantities. Finally, during the last half-century of the c1100-1500 period the arrival of Portuguese vessels along the coast created new markets for coastal-riverine and caravan traders and influenced patterns of state-building.

Consequences of Ecological Changes on Trade Networks and Routes of Conquest The progressive desiccation of western Africa during the c1100-1500 dry period made necessary the southward expansion of commercial networks from the Senegal and Niger rivers in order for traders to maintain links with ecological zones. Most notable were Mande speaking traders and smiths, who settled farther and farther to the southwestwards, southwards, and southeastwards among West Atlantic, Kwa, and Gur groups. Mande traders and smiths promoted the development of commercial and artisanal centers among host societies, and they founded chapters of Mande power associations that incorporated members of other groups and thereby came to exercise wide-ranging powers.

Towards the latter part of the c1100-1500 dry period when Mande trade networks were well established and after the "tsetse fly line" had receded southwards, Mandekan speaking horse warriors raided along caravan routes to capture commercial centers and found conquest states across great expanses of the savanna and savanna-woodland zones extending from the upper reaches of rivers flowing to the Atlantic along the Upper Guinea Coast to the upper tributaries of the Volta River in the east. A third stage of Mande involvement with host societies,

that of "Mandinkization," is discussed in the social and cultural section following.

Concomitant with the expansion of Mande and other overland trade networks, West Atlantic and Kwa groups developed extensive coastal-riverine commercial networks. Expanding their longstanding relay networks bartering salt, dried fish, and other marine commodities, West Atlantic and Kwa speaking mariners transported kola, malaguetta pepper, and other savanna-woodland and forest zone products northwards along the Upper Guinea Coast to barter for gold, cotton cloth, and other savanna and trans-Saharan products brought by Mande traders to the head of navigation of the Corubal, Geba, Cacheu, Casamance, and other rivers. These complementary and mutually sustaining water and land routes progressively linked more and more societies, and by the close of the c1100-1500 dry period all, or virtually all, of the peoples of western Atrica participated directly or indirectly in a vast commercial matrix that extended from the Atlantic to the Sahara and across West Africa to Nigeria, and beyond that to the Nile and Red Sea.

Coastwise and Riverine Commerce To date there has been little scholarly investigation of coastwise commerce by West Atlantic and Kwa groups in pre-European times. Barter exchanges between neighboring coastal and riverine groups may be assumed from earliest times, but when long distance maritime, trade networks developed — as distinct from relay exchanges — remains to be determined. Whatever may have been the circumstances prior to the c1100-1500 period, the arrival of Mande traders at the head of navigation of rivers with cloth, iron,

gold, and other commodities to exchange for salt, salted and dried fish and mollusks, kola, malaguetta pepper, and other products available from coastal areas and obtained by coastwise commerce provided a stimulus to the development of coastwise commerce on an increasing scale.

Map #3 depicting ecological zones during the c1100-1500 dry period shows conditions especially propitious for stimulating coastwise commerce. A distance of only 300 kilometers between the Gambia and Nunez rivers spanned savanna, savanna-woodland, and forest zones, promoting opportunities for complementary inter-zone commercial exchanges. During the c1100-1500 period the Guinea-Bissau region — the irregular quadilateral extending approximately 350 kilometers north to south and east to west comprising the area between the Gambia River and the northwestern outliers of Futa Jallon — developed as an important economic, social, and cultural crossroads of western Africa.

During the c1100-1500 historical period, the Guinea-Bissau region was the nexus of Biafada-Sapi, Banyun-Bak, and Mandinka commercial networks which expedited trade between the forest, savanna-woodland, and savanna zones and the coastal-riverine areas of western Africa. The principal commodities exhanged included malaguetta pepper and kola from the forest zone; kola, iron and iron manufactures from the savanna-woodland zone; cotton textiles produced in the savanna zone; salt and dried fish and mollusks from coastal-riverine areas; numerous other West African commodities including gold, medicinal products, foodstuffs of all sorts, etc.; and cloth and other luxury goods introduced to West Africa via trans-Saharan commerce. With the arrival ot Portuguese caravels from the 1440s, West African trading groups

exploited new opportunities for exchanges.

When the Guinea-Bissau region first became a nexus of western African trade networks remains to be determined, but organized commerce between the Biafada-Sapi, Banyun-Bak, and Mande trade networks seems likely to date from the thirteenth century, if not earlier. The first two networks comprised coastal-riverine trading groups which expedited the exchange of commodities between the forest, savanna-woodland, and savanna zones, while the overland routes of Mande speaking traders traversed the savanna-woodland, savanna, and sahel zones and linked with trans-Saharan caravan routes.

The Biafada-Sapi coastwise and riverine commercial network comprised a crucial link in the system of exchanges in western Africa. As discussed in Part II, during the c700-1100 wet period, Landuma traders probably developed a south to north inter-zonal route connecting the Nunez River with Kade, whence overland networks extended northwards to the Gambia and Senegal Rivers. Biafada associated with Landuma traders along the Corubal and Grande rivers likely pioneered maritime commerce linking the Nunez River and extending southwards along the Upper Guinea Coast where they obtained kola, malaguetta pepper, and other forest zone products harvested by Sapi groups, i.e. groups speaking languages belonging to the Mel sub-group of West Altantic languages. Large dugout craft (termed <u>almadias</u> by the Portuguese) were an efficient and economical means to transport bulk commodities between ecological zones, and coastwise commerce probably predates by centuries the development of inter-zone caravan routes across the Futa-Jallon massif, much of which remained forested wilderness until the fifteenth century and later.

Before the era of Mandinka conquests, Biafada territory (together with that of linguistically related Badyaranke groups) extended along the Geba and Corubal rivers eastwards to the Badiar escarpment and the northwestern outliers of Futa Jallon. Biafada called the territory along the north bank of the Geba River above the confluence of the Corubal River Degola (or Degoula), which name derives from kola. Seemingly, during the c1100-1500 period, as in later times, large ocean-going almadias unloaded at Geba and Bafata, and Degola became a lodestar for Mande speaking traders coming from the northeast and, very likely, Banyun traders travelling overland from the area of the upper Cacheu River.

The Banyun-Bak trade network linked coastal-riverine groups northwards from the Cacheu River. Whether Biafada mariners traded directly with Banyun along the lower Cacheu River, via Papel mariners and overland traders; or, most likely, by both means remains to be determined. Coastwise commerce by Biafada, Papel, or other mariners north of the Cacheu River seems improbable, because navigation between the Cacheu, Casamance, and Gambia rivers is made difficult and dangerous by high surfs, undertows, and buffeting winds along the relatively unbroken coastline, hence African traders' recourse to networks of marigots, swamps, and portages between the rivers.

Banyun speaking groups have all but disappeared during the twentieth century, absorbed by Diola, Mandinka, and other expanding groups. But as related in Part II, in former times Banyun probably constituted the principal language group living in the territory between the Gambia and Cacheu rivers and Banyun trading communities were settled further afield, including along the northern tributaries of the upper

Gambia River.

Bak speaking groups associated with Banyum in commerce included Papel who served as intermediaries with Biafada along the lower Geba River; and Diola groups living along the lower Cacheu, Casamance, and Gambia rivers and along the marigots and portages which link them. Associated with Bak speaking groups were Niominka mariners living on the Diomboss Islands in the Sine-Saloum estuary. Niominka currently speak Serer together with their mainland neighbors, but it is highly probable that in former times they spoke a Bak language.

During the c1100-1500 dry period Niominka and neighboring Serer groups exploited the arid climate of the savanna zone north of the Gambia River to make salt by solar evaporation and prepare dried fish and mollusks for trade along the Gambia River and its tributaries linking trade routes bearing northwards, eastwards, and southwards. Niominka mariners trading northwards along the coast between the Sine-Saloum estuary and Cape Verde (termed the Petite-Cote from French times) linked the Banyum-Bak commercial network with caravan routes bearing northeastwards to the Senegal River and connecting with trans-Saharan trade routes. Cape Verde marked the northern extension of the Banyum-Bak network, for the long unbroken coastline between Cape Verde and the Senegal River is very difficult for dugout craft (and sailing vessels) to navigate against the southward flowing Canary current and northeasterly winds prevailing most of the year.

Viewed in large perspective the West Atlantic speaking Biafada-Sapi and Banyum-Bak groups transported bulk commodities northwards around the Futa Jallon massif into rivers whose upper reaches and tributaries provided convenient access to Mande routes bearing north-

wards and eastwards. Although the lower courses of these waterways are bordered by mangrove swamps and low-lying marshlands infested with anopheles mosquitos and tsetse flies, the upper reaches are in savanna country that is relatively free of both vectors and donkeys could be used to supplement human porters. 58

Mande Traders and Mandekalu Warriors The third trade network linking Senegambia and the Guinea-Bissau region was controlled by Mande speaking traders who connected the Biafada-Sapi and Banyun-Bak networks with the great matrix of Mande trade routes crossing West Africa and which linked to trans-Saharan caravan routes from the bend of the Senegal River to the bend of the Niger River.

The development of Mande trade routes linking Senegambia and the Guinea-Bissau region was marked by two phases: a period of peaceful trade and settlement followed by an era of territorial conquest and state-building by warrior groups. Beginning at a time yet to be determined but perhaps as early as the eleventh or twelfth century, Mande speaking traders moved westwards across the savannas to settle peacefully among West Atlantic speaking groups living along the Gambia River and along the upper reaches of the Casamance, Cacheu, Geba, and Corubal rivers.

Oral traditions relate that members of the Fati clan were the first Mande speaking group to reach the upper Gambia River. They settled around Basse in the Tumana area along the south bank and acted as hosts and landlords for Mande speaking groups which followed them. Basse is located on the southernmost loop of the upper Gambia River, indicating that members of the Fati clan were interested in commod-

ities coming from the south, e.g., kola and malaguetta pepper. As related in Part II, it is probable that a long established trade route already linked Basse and Kade along the upper Corubal River. Basse likely was also a market for bulk commodities brought upriver in Niominka almadias, such as salt, and salted and dried fish and mollusks.

Members of a second Mande speaking family, the Sane clan, moved into the Guinea-Bissau region from the northeast, settling first among Badyaranke/Biafada at Marou in Pajadi along the Badiar escarpment which commands the trade route connecting Kade from the northeast. (After a period ot time?) some Sane moved southwestwards to Kitchara, some ten kilometers east of the caravan crossroads at Kade along the eastern route linking Futa Jallon. Other members of the Sane family settled a hundred kilometers west of Kade along the Geba River at Basung among the Biafada of Degola.

The pattern of peaceful trade between West Atlantic speaking "landlords" and Mande speaking "strangers" changed from the fourteenth(?) century onwards with the westward invasion of Mandinka speaking warrior groups which progressively conquered West Atlantic speaking societies living in the Guinea-Bissau region and along the Gambia River.

Mandinka oral traditions credit the earliest conquests to Tiramang (or Tiramakan) Traore, improbably attributing his time to that of Sundiata Keita, reputed founder of the Mali Empire in the mid-thirteenth century (see section ff). Allegedly Sundiata dispatched Tiramang westwards with an army to punish the ruler of the Jolof Empire (13-15 cent.) for killing all but one member of a horse-buying expedition,

the survivor being sent home with an insulting message for Sundiata. Consequently, Sundiata commanded Tiramang to defeat the Jolof ruler and to subdue the Cassa "queens," which term presumably refers to the matrilineal descent pattern of the Banyun-ruled Cassa State.

Traditions relate that Tiramang defeated Jolof forces along the north bank of the Gambia River (where and how decisively are uncertain), then crossed the river where his forces combined with those of the Sane clan to capture a Banyun stronghold in Pakau, the area between the upper reaches of the Songrougrou and Casamance rivers. Tiramang is not reported to have conquered Banyun territory along the middle and lower Casamance River; instead, he turned east and collaborated with the Sane clan in conquering the Damantang region between the upper Gambia River and the Koulontou River, an area inhabited by Banyun and Badyaranke(?). Tiramang reportedly married a Damantang woman who bore him several sons. He died at Basse, reportedly en route back to Mali. His descendants are linked to the Sane and Mane families, the clans which furnished the mansas of the Kaabu Empire on a rotating basis. 59

When what is related by bards concerning Tiramang's exploits is reviewed in the context of the commercial networks previously discussed, Tiramang's campaigns in collaboration with Sane forces may be seen as achieving, or consolidating, Mandinka control over three north-south trade routes linking the Guinea-Bissau region and Senegambia: (1) a route that linked the middle reaches of the Gambia River, the upper Casamance River and the middle Geba River; this territory was controlled by the Mandinka-ruled Casa and Badour states, the first, a former Banyun state, and the latter the former Biafada

territory of Degola; (2) a second Mandinka-controlled route linking Basse and Kade; and (3) a trade route extending northeast of Kade that linked the upper Senegal River and Bambuk region.

When the conquests associated with the Sane clan and Tiramang occurred remains to be established. Notwithstanding that Mandinka bards insist that Tiramang was associated with Sundiata (a relationship much esteemed by Senegambian ruling families which claim descent from Tiramang), the Sundiata-Tiramang relationship is not generally mentioned in traditions collected from bards in the Mande heartland, and there are few details given to substantiate the credibility of a major campaign against the Jolof Empire in Sundiata's time. 60

Ecological factors suggest that Mandinka conquests in Senegambia and the Guinea-Bissau region belong to the latter part of the c1100-1500 dry period. During the c700-1100 wet period Senegambia was entirely within the savanna-woodland zone, and probably only after the c1100-1500 dry period was well advanced would the lands along the Gambia River be sufficiently free from tsetse flies for successful cavalry operations. Compare maps #2 and #3; note that on Map #3 the south bank of the Gambia River is barely north of the tsetse fly line. The conquests associated with Tiramang seem likely to date to the fourteenth century, perhaps the late fourteenth century.

It would seem, moreover, that Mandinka warrior groups may have conquered the savanna-woodland zone of the Guinea-Bissau region rather quickly, but that ecological and epidemiological factors combined to prevent their occupation of coastal-riverine areas. The lower reaches of the Cacheu and Casamance rivers and the south bank of the Gambia River from Vintang Creek westwards are swampy and infested with tsetse

flies, redoubtable allies for the Banyun and Diola groups which tenaciously long resisted the incursions of Mandinka horse warriors. The first two areas were never conquered, and Mandinka did not invest the south bank of the lower Gambia River until the latter part of the c1630-1860 dry period.

Until the eighteenth century five Banyun-ruled states maintained control of the coastal-riverine trade networks linking the lower reaches of the Cacheu, Casamance, and Gambia rivers via tributaries and connecting portages: Buguendo along the north bank of the lower Cacheu River; Bichangor along the south bank of the Casamance River; Jase located along the east bank of the Songrougrou River; Bati along Vintang Creek; and Foni extending along the Gambia River from Vintang Creek westwards to the Cabata River. Banyun traders in the last two states long maintained their association with Niominka mariners which linked the commerce of the Gambia River and the Petite-Cote.

Like Banyun, Biafada were also deprived of their former territories in the savanna-woodland zone by Mandinka conquests, but retained control over the lower reaches of the Geba and Corubal rivers and coastal-riverine areas. Despite these losses, Biafada continued to carry on an extensive and growing commerce with Mande speaking traders, many of whom were permitted to reside in Biafada communities along the Corubal and Grande rivers.

Mandinka trade, settlement, and conquest of the north bank of the Gambia River seems likely to have been subsequent to state-building in the Guinea-Bissau region. There would have been little incentive for Mande traders to traverse Wolof and other groups the length of the Gambia to obtain salt and dried fish and mollusks, which bulk commod-

ities could more easily and less expensively be transported to the head of the river navigation by Niominka (or other) mariners in almadias.

Indeed, it seems possible that Mandinka conquest of the north bank of the Gambia River may have preceded the development of Mande west-east trade routes, and that when this happened (in the late fourteenth century?) one of the principal objectives would have been to gain control over north-south routes crossing the Gambia River and to exact tribute from Serer groups making salt along the Saloum River in rice fields that were abandoned when the soil became too saline for rice production. Significant east-west commerce between Mandinka states along the north bank of the Gambia River would seem more likely to date from European times and the expansion of slave-trading.

Rulers of Mandinka conquest states in the Guinea-Bissau region and Senegambia practiced similar patterns of statecraft derived from the Mali Empire to which all acknowledged nominal suzereignity. A means of avoiding internecine conflicts — and of diffusing authority -- was the rotation of rulership among eligible candidates of Mandinka "founder" families. Once established, "boundaries" of Mandinka states remained remarkably stable for half a millenium, until the nineteenth century, testimony to the capabilities of the ruling elites to safeguard their interests by means of marital ties, mediation of disputes, etc., techniques of mutual protection of interests that are aptly described as "interlocking directorates."

The viability of transplanted Mande social and cultural institutions were of incalculable importance to Mandinka ruling elites in consolidating their control over the West Atlantic speaking groups

they conquered, large numbers of whom they held in bondage. Each Mandinka social element exercised a special role: elites and free persons imposed the social and cultural patterns of the Mande heartland, while smiths, bards, and leatherworkers transmitted their skills and religious practices. All of the foregoing held captives, whose descendants might become integrated into Mandinka society.

When the Mali Empire disintegrated during the fifteenth and early sixteenth centuries, the several dozen Mandinka states of the Guinea-Bissau region became part of a loose federation of states called the Kaabu Empire ruled by mansas selected on a rotating basis from eligible members of the Sane and Mane clans of the states of Sama, Jimara, and Pachana. Notwithstanding the political collapse of Mali, economic, social, and cultural links between Mandinka living in the Kaabu Empire and those living along the north bank of the Gambia River continued to be maintained with the Mande heartland, indeed remain strong to the present day. 61

The two-stage pattern of Mande speaking traders and smiths pioneering new trade routes and settling among West Atlantic host communities, followed by Mandekalu speaking warrior groups, is repeated time and again in other parts of western Africa, as discussed in the section following.

Mande Traders and Smiths and Landlord-Stranger Reciprocities

The progressive desiccation of western Africa during the c1100-1500 dry period impelled Mande speaking traders and smiths to venture farther and farther southwards, the former to obtain kola, malaguetta pepper, and other commodities, the latter to find the types of trees

they needed to make charcoal for smelting and working iron. As discussed in a section following, wherever smiths settled among host societies they founded chapters of Mande power associations, most notably Simo and Poro lodges which controlled and expedited commerce. And during the latter part of the c1100-1500 period, Mande traders became the chief agents for the diffusion of Islam among many of the societies of western Africa.

West Atlantic and Gur speaking traders living in the savanna-woodland zone acted in middleman roles, as well as collectors and producers of commodities sought by Mande traders. They were hosts to Mande traders and smiths, and many landlord groups encouraged Mande strangers to establish permanent communities. During the c1100-1500 dry period, Mande traders and smiths developed a number of commercial centers in the savanna-woodland zone which served both as local markets and as entrepots for trade with groups living in the forest zone and along the Atlantic coast.

Mande communities among host societies served a number of economic, social, and cultural roles. They were market towns and warehousing and bulking centers. They were communications centers invaluable for traders operating along extended networks, and for heads of power associations. They were centers of artisanal activities, for Mande smiths notably, but also leatherworkers and woodworkers. Such communities were nodes for the diffusion of Mande languages and social and cultural practices, and, as time passed, they were centers for the diffusion of Islam.

Members of the host societies who lived in, or neighboring, such landlord-stranger communities derived many benefits, including the

collection of tolls and other revenues from strangers; sale of trade commodities; employment by strangers as compradors, carriers, and laborers; and as suppliers of foodstuffs. Mande strangers were generally permitted to marry with women from host communities, and often acquired numerous captives and dependents, with ramifications discussed in the section following.

Desiccation of western Africa during the c1100-1500 period had far-reaching consequences for smiths and for the traders who distributed iron manufactures and iron bars, the latter often used as a form of money among forest peoples. More arid climate patterns slowed the growth and replacement of depleted stands of timber in Senegambia and along the northern reaches of Futa Jallon, areas formerly in the savanna-woodland zone but now changing to savanna. Even where there was plentiful rainfall in the savanna-woodland zone, the large quantities of charcoal required by a group of smiths for their smelting furnaces soon exhausted suitable species of hardwoods over a large surrounding area, compelling them to move to new iron deposits with convenient adjacent woodlands. To the timber needs of smiths may be added those of their wives who are often potters, for firing their products also requires considerable quantities of wood.

During the c1100-1500 dry period, iron-smelting (but not iron working) declined and virtually ceased in Senegambia and along the upper Niger River as smiths moved southwards into the virgin woodlands of the Futa Jallon massif. Thus, the c1100-1500 dry period marked the beginning of a change in direction in iron trade in western Africa, from south to north, by caravan routes and by coastwise trade, which commercial pattern Portuguese mariners were alert to exploit from the

close of the fifteenth century onwards.

The exploitation of Futa Jallon's iron deposits and forest resources initiated far-reaching ecological changes, changes that were exacerbated by the desiccation of the c1100-1500 dry period, and by the c1630-1860 dry period. The consequences of timber cutting for making charcoal were compounded by land clearing to cultivate food for the iron-workers and their families and for traders and their dependents. Some idea of the consequences of the enormous and unceasing demands of charcoal-making may be appreciated from the calculation that the provision of fuel for a single smelting furnace in medieval Europe could level a forest for a radius of a kilometer in only forty days of operation. Conditions in West Africa were analagous; moreover, West Africa trees most suitable for charcoal-making tend to be slow-growing species, and in the era of declining rainfall from the twelfth century onwards, the consequences of timber cutting were more serious than otherwise. The processes of ecological degradation initiated by charcoal-makers were exacerbated by the activities of cultivators, who felled species of trees left standing by the former. Slash-and-burn methods of clearing land contributed to the progressive deterioration of the soils of the highlands. 62

Exploitation of Futa Jallon's iron resources stimulated the growth of trade routes traversing the massif. Trails connecting sparsely settled areas became well-travelled caravan routes during the duration of the dry season, with communities at the junctures of routes developing into market towns. An expanding network of caravan routes linked Futa Jallon with the three major river systems of western Africa, the Niger, Senegal, and Gambia, via the valleys of their

tributaries. Other expanding routes linked Futa Jallon with rivers flowing to the coast, connecting West Atlantic coastwise trade networks which carried iron and other commodities southwards and northwards.

A number of important Mande trade and bulking centers can be identified in the savanna-woodland zone during the c1100-1500 dry period. North to south these included Kade, Labe, Timbo, Falaba, Kissidougou, and probably very late in the dry period, Sondougou and Musadougou. Reference to Map #3 shows that all of them were sited near the head of navigation of rivers linked with the Senegal River and Niger River commercial networks, and all are between 200 and 300 kilometers from the coast. All were well sited to tap valuable resources of kola, salt, malaguetta pepper, and other savanna-woodland, forest, and coastal-riverine products. Very likely each site had been a commercial center before the arrival of Mande traders, but such remains to be established by archaeological investigation and collection and analysis of oral traditions. 63

Kade was almost certainly a commercial center in ancient times, as discussed in Part II. There are salt deposits in the vicinity, lithic tools were manufactured in the nearby Badiar escarpment, and Kade is sited at the head of navigation of the Corubal River. Kade is not far from the lower reaches of the Tomine River which with connecting river valleys links Labe in the heart of the Futa Jallon massif. A short distance to the north of Kade is the upper reaches of the Koulontou tributary of the upper Gambia River, and caravan routes link the upper Gambia and upper Senegal rivers across flat and easily traversable terrain. Kade was linked by caravan routes to the Grande and Nunez

rivers, which latter tapped areas of kola and malaguetta production via coastwise networks extending to the southwards. From the Nunez River to the upper Senegal River via Kade was reckoned a month's journey by caravan. The upper Corubal River around Kade was known as Koli, Kokoli, and Koliba, which names seemingly are all derived from kola. During the c1100-1500 period, Kade was probably one of the most important caravan crossroads in western Africa. 64

It is noteworthy, too, that several gold working sites located along the Geba and Corubal rivers in what was Biafada and Landuma territory were exploited during the c1100-1500 dry period. Some of the vertical shafts are approximately 20 meters deep, with horizontal tunnels branching out at the bottom. These mining activities required suitable iron tools and expertise, presumably furnished by smiths familiar with similar mining practices elsewhere — quite possibly the Bambuk goldfields. 65 Smith-miners would have produced iron, iron tools, and iron weapons for their own use, to barter for foodstuffs and local commodities, and for sale to Mande and West Atlantic speaking traders engaged in riverine and coastwise commerce southwards along the Upper Guinea Coast. Gold, iron and iron products, and cotton textiles obtained by Mande traders in the savanna zone would have exerted a powerful stimulus for commerce with West Atlantic societies linked by coastwise commerce with forest areas to the south producing kola and malaguetta pepper. Portuguese sources indicate that there was a thriving commerce in these commodities in the Guinea-Bissau region when they arrived in the fifteenth century.

Labe and Timbo became increasingly important commercial centers during the c1100-1500 dry period, and their era of greatest signif-

icance lay in the future, during the c1630-1860 dry period when they were the chief commercial and political centers of the Fula almamate. Labe is located along a tributary of the upper Gambia River. Timbo is sited near the headwaters of the Bating tributary of the upper Senegal River, and the upper reaches of the Tinkisso River extend a short distance to the east-northeast, providing a link to the upper Niger commercial network. Rivers were ot crucial importance for commerce because most of the Futa Jallon massif remained a forested wilderness until the c1630-1860 dry period.

When Labe and Timbo were first settled by Mande speaking traders is unknown. During the c1100-1500 period, Labe may have been in Landuma territory, Timbo in Temni country, but such remains to be determined. The Sundiata epic, dating to the 13th century, records nothing concerning either community, but relates that Fran Kamera, the leader of Tabon (150 kilometers to the northeast of Timbo along the Bafing River), was a smith and a member of the Camara clan who brought important forces to Sundiata's support. Unfortunately, bards supply no information concerning the identities of the groups led by Fran Kamera. Tabon is described as "the iron-gated town in the midst of the mountains" and "an impregnable fortress," testifying both to the iron-working abilities of the Camaras and to the need for fortifications in a (recently?) occupied frontier area. 66

Timbo's analogue as a trade and bulking center for the upper Niger River commercial complex was Falaba, located less than a hundred kilometers distant but separated by a long ridge of mountains difficult to traverse. Timbo- and Falaba-based traders competed for kola harvested in the highly productive forests of southern Guinea-Conakry and north-

ern Sierra Leone (see Map #4), for salt produced along the lower Kolente River and elsewhere, and from the last quarter of the fifteenth century, for commodities brought by Europeans. Timbo was served by the Kolente (Big Scarcies) and Little Scarcies river valleys; while Falaba was linked to the Little Scarcies and a caravan route connecting the Rokel River flowing into the Sierra Leone estuary, which magnificent harbor became a favorite port-of-call for European vessels from the fifteenth century. 67

Mande traders settled along the upper Kolente River from an undetermined date during the c1100-1500 dry period. Evidence for the presence of the Komo, or Simo, power association in the Bena area at the close of the fifteenth century is found in the account of a Portuguese trader named Alvaro Velho who visited a shrine with an "idol" revered in all the surrounding country and to which people brought sacrificial animals. Alvaro Velho acknowledged that he was unnerved by the numerous serpents at the shrine, notwithstanding the assurances of the "priest" in charge. 68

The importance of kola trade along the Kolente-Little Scarcies trade routes, and the wealth that some groups derived from it, is suggested by information recorded in Portuguese accounts which relate that Temni groups living in the highly productive region of southern Guinea-Conakry and northern Sierra Leone acquired large quantities of gold in rings and other jewelry which were buried with deceased leaders. These treasure troves were ruthlessly searched-for and plundered by Mani invaders who invested the territory in the sixteenth century. 69

Kissidougou, Sondougou, and Musadougou are respectively sited

along the upper reaches of the Niandan, Dyani, and Dyon tributaries of the Niger River. Available evidence suggests that Kissidougou was earlier linked to the upper Niger commercial network than Sondougou and Musadougou.

According to traditions associated with Sundiata, Kissidougou was "founded" by Dankaran Touman, Sundiata's half-brother following his defeat by Sumanguru, ruler of the Soso state (see following). The name ot the West Atlantic speaking (Kissi) inhabitants of the area suggests the existence of an earlier trading community, as does reference in the Sundiata epic to the area as "the land of the kola." 70 What seems likely is that Mande traders had previously visited the area as stranger-traders, and that Dankaran Touman's arrival with his entourage of fellow exiles would represent the second, or conquest, stage of Mande involvement in the area. Note on Map #4 that Kissidougu is in the northernmost part of the area of heavy kola production extending across Sierra Leone and Liberia, closer than Sondougou and Musadougou to markets along the upper Niger River.

A reasonable possibility is that before the arrival of Mande traders at Kissidougou Kissi traders had caravan routes linking the coast to obtain salt, dried fish, and perhaps malaguetta pepper and other commodities. Prior to the time of the Mani invasions in the sixteenth century discussed in Part IV, Kissi territory extended to the Atlantic. The Kissi language is closely related to that of Krim, who live along the southeastern coast of Sierra Leone for some forty kilometers to the west of Cape Mount. One of the invasion routes of the Southwestern Mande speaking Mani groups crossed the middle of Sierra Leone in a northwesterly direction, and their Mendi descendants

subsequently expanded a wedge of territory extending some 170 kilometers between Kissi and Krim groups. In the circumstances, Krim groups became assimilated to neighboring Bullom/Sherbro groups which speak a closely related West Atlantic language and with whom they are associated in coastwise commerce, fishing, and shared social and cultural practices. 71

Traders belonging to Mande speaking trading group settled east of the Krim prior to the Mani invasions; these spoke Vai/Kono, a Northern Mande language. Vai/Kono traders represent the only Mande speaking group to attain the Atlantic coast for hundreds of kilometers in each direction.

Vai/Kono migrations from the upper Niger River valley to Sierra Leone and Liberia would seem to represent a two stage movement of Mande traders involved in kola, malaguetta pepper, and salt commerce. Their settlement in the high plateaus of the Loma Mountains where Kono now live probably dates to early in the c1100-1500 dry period, with kola as the principal commercial attraction.

The second stage of Vai migration more than a hundred kilometers to the south to the area of Cape Mount occurred sometime prior to 1500, tne time yet to be determined. The area between the Moa and Lofa rivers has some of the most productive stands of kola trees in western Africa (see Map #4), besides which the Moa, Mano, and Lofa rivers and coastwise commerce provided access to maritime salt and malaguetta pepper harvested in the forests to the south and transported by Kwa mariners in dugout craft.

Apparently the key to Vai success in penetrating to the coast was that the Cape Mount area marks the juncture of West Atlantic and Kwa

language groups, evidently the only approach to the coast vulnerable to Mande trading groups for hundreds of kilometers in either direction.

The principal inhabitants in the interior of the Cape Mount area prior to the arrival of the Vai were the Gola, which is to say the "kola" people from the k¼-¼g correspondences in West Atlantic languages. Gola continued to trade kola and salt northwards along the Mano River via a route that veered eastwards of the Vai-Kono route towards the Konyan area and Musadugu. Musadugu is sited on the Dion River, a tributary of the Sankarani River which bends close to Niani, capital of ancient Mali, before joining the upper Niger River.

Vai traditions relate that when they arrived on the coast they found Dei at the mouth of the Mano River, and the presence of Kwa speakers in the area in past times is signalled by remnant Kwa speaking populations along the rivers. When Kwa speakers first reached the Cape Mount area remains to be determined. 72

With respect to Kwa groups settled along the coast of Liberia, it may be speculated that their arrival post-dates the arrival of Mande traders in the hinterland during the early part of the c1100-1500 dry period. The origins of Dei, Bassa, and Kru maritime groups extend eastwards along the Gulf of Guinea where related language groups live. Their expansion westward seems likely to be linked to the barter of fish with coastal communities, plus relay exchanges of such commodities as beads and cloth manufactured in Nigeria, gold mined in modern-day Ghana, and kola and malaguetta pepper from Ivory Coast and Liberia. The arrival of Mande traders at the head of navigation of the Bandama, Sassandra, Cavalla, Cess, St. John, St. Paul, Lofa, Mano,

and Moa rivers would have stimulated Kwa speaking groups to expand westward along the coast and rivers of Ivory Coast and Liberia — until their progress was arrested by competing West Atlantic speaking Bullom/Sherbro groups. 73 The linguistic "frontier" between Kwa and West Atlantic groups was around the Cape Mount area until the sixteenth century, when the Mani invasions comprising Mande speaking and Kwa speaking groups conquered Bullom groups along the coast of Sierra Leone.

If Mande speaking traders were active in the Kissidougou area during the c1100-1500 dry period, such does not seem to have been the case for smiths, likewise in the Sondougou and Musadougou area to the east. As Map #3 shows, Kissidougou, Sondougou, and Musadougou lay deep in the savanna-woodland zone during the c1100-1500 dry period, perhaps in a forest environment until the fifteenth century. As such, the area would not have been an attractive one for smiths, who could have more conveniently supplied iron to savanna markets by operating farther to the northwards. All indications are, moreover, that populations were sparse in the forest zone in this period (and later), providing comparatively little incentive to produce iron and iron goods for sale in the forest zone -- especially when kola, malaguetta pepper and other forest and savanna-woodland zone products were conveniently obtained elsewhere.

Such would seem the explanation for the findings of archaeologists that iron long remained scarce in forest areas of Sierra Leone and Liberia. Groups living in Sierra Leone obtained iron from northern areas of production from at least the eighth century, but iron remained in short supply long afterwards, including in some areas down

to the nineteenth century. Circumstances apparently were similar in Liberia as well, as the use of "Kissi pennies" in recent times attests. 74

Possibly an exception need be made for Kpelle/Guerze territory along the frontiers of Guinea-Conakry and Liberia where gold deposits existed. 75 Exploitation of these deposits may be linked to the founding of Sondougou and Musadougou.

During the c1100-1500 dry period, the rich Lobi gold fields along the Black Volta River hundreds of kilometers to the east were exploited by Mande smiths and traders, but the area east of the Bandama River lies outside the purview of this study.

Ghana, Jolof, Soso, Mali, and Mandekan Horse Warriors Ghana's decline and the founding of Mali are widely recounted in Mande oral literature, and there is much valuable information concerning both states in Arabic sources compiled by Arabs and Berbers. What is remarkable in the context of this study is how much evidence there is, direct and indirect, in both types of sources concerning climate changes as factors in Ghana's "fall" and Mali's "rise." Indeed, the north-to-south shift associated with the two great empires can be closely associated with the progressive desiccation of western Africa during the c1100-1500 dry period.

Two other themes that are prominently mentioned in oral traditions and Arabic sources are the extent of the southward expanding trade networks previously discussed, and the increasing use of horse cavalry in the sahel and savanna zones. The significance of the spread of Mandekan languages that convey Mande oral traditions is discussed in the social and cultural section following.

Cavalry warfare is everywhere associated with state-building in the sahel, savanna, and savanna-woodland zones during the c1100-1500 dry period; indeed, royal prestige and elite status are invariably associated with possession of horses — including by non-Mande rulers living in the savanna-woodland and forest zones who possessed one or a handful of disease-wracked beasts as prestige symbols.

The southward movement of the sahel zone and "tsetse fly line" during the c1100-1500 dry period allowed for horse breeding and horse keeping hundreds of kilometers farther south than was possible during the c700-1100 wet period (compare maps #2 and #3). Soninke horse breeders and traders living between the upper Senegal River and the Niger bend derived great advantage from the progressive climate change and seemingly were able to maintain a near monopoly of breeding herds and sales of mounts to warrior groups. 76 Berbers and Moors long exercised a similar monopoly along the Senegal River. Their practice was to sell only male horses to Fula, Wolof, and other groups living south of the river, which ensured optimum prices and minimized concerns that their southern neighbors might pose a military threat.

Climate desiccation, the development of cavalry warfare, and state-building are found intertwined in oral traditions and Arabic sources. Oral traditions explicitly associate the decline of the Ghana empire with the progressive desiccation of western Africa. As related following, traditions attribute the downfall of Ghana and the abandonment of its "capital", Kumbi Saleh, to the slaying of the serpent "Bida" which lived in a well. Bida's dying pronouncement was a terrible curse that brought desiccation to the area and ended its gold production.

A variant tradition associated with Bambuk, the gold-producing area which lies between the Faleme and Bafing rivers, relates that the giant serpent lived in a stream, and that the suitor who killed the snake with a sabre was mounted on horseback. The day after he rode away with his beloved, the Soninke living in Bambuk were invaded by implacable enemies (unidentified) who pillaged their lands and afterwards held them in subordination. 77

It is not known when the Boure goldfields north of the Tinkisso River were first exploited, but the wealth they produced is associated with the Mali Empire founded in the thirteenth century. Comparison of Map #2 and Map #3 suggests that Boure's deposits would have been exploited subsequent to those of Bambuk from their lying some 300 kilometers to the south and consequently located along the northern fringe of the forest zone during the c700-1100 wet period. Who the inhabitants of the area were during the c700-1100 wet period were is unknown, but is noteworthy that traditions mentioned following attest to an influx of Mande groups into the area during the c1100-1500 dry period.

The growing power and prosperity of Takrur during the close of the c700-1100 period, evidenced by its alliance with the Berber Almoravids, its control of the salt trade eastwards along the Senegal River, and by the augmenting quantities of gold found in Senegambia archaeological sites, all suggest that the gold production of Bambuk came increasingly under the control of Takrur following Ghana's decline. By contrast, the exploitation of Boure's deposits contributed importantly to the wealth and power of the Mali Empire.

Mande oral traditions associate the drought that destroyed Ghana

with the founding of Mali. Traditions relate that members of the "royal" Keita clan and other Soninke families dispersed from Kumbi Saleh southwards to the Boure goldfields and other areas along the tributaries of the upper Niger because the core area of the Ghana Empire was ravaged by a sustained drought.

Drawing on the research of Youssouf Cisse, Nehemia Levtzion traces the beginnings of the Mali Empire to the banding together into one organization of hunters' associations that included members of the Keita and Konate clans from Wagadu (the heartland of the Ghana Empire), the Kamara clan from Sibi, and the Traore clan leading the hunters of Do, Gangara, and Kiri, all areas along the upper Niger River. "Probably towards the end of the eleventh century" Namadi-Kani of the Keita clan became "hunter-king." 78

As related following, one of the Namadi-Kani's descendants, Sundiata Keita, is credited with founding the Mali Empire in the first half of the thirteenth century. Prior to that time, however, there were developments south and west of Takrur similar to those previously discussed with respect to Takrur and Ghana, namely the founding of the Jolof Empire.

Senegambian bards attribute the origin of the Jolof Empire to Njajan Njai, who founded a state south of the Senegal River during the second half of the twelfth century. During the centuries following, the Jolof Empire came to control much of the territory between the Senegal and Gambia rivers, areas inhabited by Wolof, Fula, Serer, and Lebou speaking groups. Conquered territory included Dimar, the westernmost province of the Takrur state. 79

Oral traditions associated with the founding of the Jolof Empire

provide many intriguing details concerning West Atlantic speaking groups living between the Senegal and Gambia rivers. It would seem, for example, that groups living in western Senegal had matrilineal descent patterns prior to their incorporation into the Jolof state. Njajan Njai, the reputed founder of the Jolof Empire, was born in Walo along the lower Senegal River and his father supposedly was Abu Bakr ibn Umar, a famous Almoravid (Berber) warrior who died in 1087. This date is several generations too early for a credible parent, but the Almoravid affiliation serves to symbolize links with a hero of ascendant Islam and, more mundanely, with increased commercial and cultural contacts between Senegambia and Morocco along the western Saharan route during the close of the c700-1100 wet period — a time when the Berbers of the western desert became allied with Takrur when they contended with the Soninke-ruled state of Ghana. 80

Njajan Njai had a remarkable life. Supposedly when Abu Bakr ibn Umar died, Njajan Njai's mother took his "Bambara" (i.e., Mande speaking) slave as her second husband, an alliance that so angered Njajan Njai that he jumped into the upper Senegal River near Bakel (in Takrur) and commenced an aquatic lifestyle. Njajan Njai made his way downstream to Walo, the land of his birth along the lower Senegal River, where his supernatural powers induced Wolof, Serer, Lebou, and Fula groups (reputedly he spoke Fula) to proclaim him Burba Jolof and submit to his rule and that of his male heirs. 81

The foregoing traditions are congruent with the historical developments previously discussed. That the founder of the Jolof Empire is associated with the Soninke-ruled state of Takrur and that the Jolof Empire annexed Dimar, Takrur's westernmost province, would serve to

explain the adoption by Wolof, Tukulor, and Serer of the three-fold Mande social structure comprising elites and free persons, endogamous occupational groups, and captives. The inhabitants of Senegambia were early influenced by the spread of Islam which reinforced the patrilineal principle, and Muslim marabouts tended to support rather than challenge the tripartite social order until the reformist movements of the nineteenth century. 82

The Jolof Empire's southward expansion is congruent with the advancing desiccation during the c1100-1500 dry period and the use of horse cavalry farther and farther to the southwards. The ruling elites of the expanding state would have become progressively more "Wolofized" as they expanded their territory southwards and westwards incorporating more and more Wolof groups along with Fula, Lebou, and Serer groups. The state's distinctive "Wolof" imprint may in fact have been a relatively late development, following the unprecedented military success and territorial expansion made possible by acquiring large numbers of horses from Portuguese traders during the second half of the fifteenth century, which commerce also contributed significantly to a westward, and Wolof, orientation of the state.

Senegambia is perhaps the only area of western Africa where the arrival ot European traders initiated rapid and far-reaching changes. Portuguese caravels first reached Senegal in the 1440s, and the traders onboard were astute and capable men who quickly took advantage of Senegambians' desires for horses, iron, prestige cloth, and other commodities. In contrast to Moors, Berbers, and Soninke who carefully rationed the horses they sold to Wolof, Fula, Mandinka, and other groups desirous of obtaining cavalry mounts, Portuguese shipborne

traders sold horses by the hundreds, mares as well as stallions, with no concern about any consequences for themselves. For unlike neighboring African groups, Portuguese had no need to fear attack by erstwhile trading partners, and the sale of horses stimulated an important secondary trade in saddles, bridles, and other horse tack.

By the beginning of the sixteenth century the Jolof Empire was reported to have some 10,000 horses, enabling it to dominate the territory between the Senegal and Gambia rivers. One consequence of the changed balance of power was that the cavalry forces of the Jolof Empire swept Mandinka horsemen from the north bank of the Gambia River, for a time reversing the westward tide of Mandinka/Mandekalu expansion. 83

As related in Part IV, the rulers of the Jolof Empire received their comeuppance during the c1500–1630 wet phase when tsetse-borne trypanosomes decimated horse herds in Senegambia; this and other factors contributed to the breakup of the Jolof Empire into its constituent states.

Circumstances relating to the decline and disintegration of the empire of Ghana and the fragmentation of its territory among competing states are only sketchily reported in traditions and Arabic texts, and are the subject of much analysis and conjecture on the part of scholars. Until recently, the general view was that the Ghana Empire began to break up after Kumbi Saleh was captured at the close of the eleventh century by the Almoravids, Islamized Berber groups allied with the Takrur state. Soninke groups living under Ghana's direct and indirect control began to hive off, among them the Diafunke who "worshipped" a snake; the Niakhate and Kiawara clans which successively

ruled the Diara state; the Diariso and Kante clans which successively ruled the Soso state; and the Kusa, who are identified as descendants of crown slaves of Ghana's ruling Sis/Sonnis dynasty.

The most important of Ghana's successor states was the Soso state, which attained the height of its power under the rule of the Kante lineage, a blacksmith clan. During the reign of Sumanguru Kante early in the thirteenth century, Soso controlled most of Ghana's former territories and many small states along the upper Niger River, including that of the Keita clan, the family of Sundiata, founder of the Mali Empire.

The foregoing scenario concerning the "fall" of Ghana has recently been challenged. In his review of Hopkins and Levtzion, Corpus of Early Arabic Sources for West African History, 84 Humphrey J. Fisher advances the proposition that Kumbi Saleh was not conquered by the Almoravids, but by the Soso — without, however, addressing the issue as to who the Soso are, a conundrum with many ramifications for West African history. 85

For example, following Sumanguru's defeat by Sundiata (discussed following), Niane and Houis conclude that many Soso migrated southwards into Futa Jallon, their descendants being the Susu, which opinion Levtzion accepts with reservations. 86 Delafosse, by contrast, was informed of traditions that following Sundiata's victory, Sumanguru's relatives and their families migrated westwards to Takrur where around 1250 they founded a Soninke dynasty in Futa Toro which a century later was supplanted by a Wolof dynasty. 87

The many issues outstanding concerning the Soso/Sosso/Susu conundrum may not soon be resolved, but information collected by James S.

Thayer in northern Sierra Leone in the area of the former Susu-ruled state of Bena suggests a promising alternative to the hitherto fruitless longstanding efforts to identify "Soso" with a specific lineage or ethnic group. Thayer was informed that "Susu" is derived from Susuwi, "horse," i.e. "horseman." 88

The identification of Soso/Sosso/Susu as "horsemen" is compatible with information recorded in traditions and Arabic sources and accords with one of the most notable features of the c1100-1500 dry period — that ot state building by horse-owning Mande speaking warrior groups. Bards extol (and perhaps greatly exaggerate) the importance of horses in their accounts of the "founding" of the Mali Empire in the thirteenth century by Sundiata Keita, a descendant of the Soninke "hunter-king" Namadi-Kani. But based on information contained in Arabic sources, Robin Law suggests that the era of cavalry warfare in western Africa dates to the thirteenth and fourteenth centuries, by which time there were sufficient available horses and horsemen had acquired the bridles, stirrups, and saddles that are necessary accoutrements of cavalry warfare. 89

Traditions relate that Sundiata, a young hunter, waged a long struggle against Sumanguru Kante, the smith and renowned sorcerer who ruled the "state" of Sosso. Sumanguru was the son of a Soninke warrior of the Kante clan named Djara and was descended from a line of smiths called Diarisso who were reputed the first to harness fire and work iron. The "town" of Sosso was located in the area east of Kita, and the "state" of Sosso expanded following the decline and disintegration or Ghana. Part of the territory Sosso forces conquered was Sundiata's homeland, forcing the latter to flee into exile. 90

Bards' accounts of Sundiata's rise from a magic-enthralled and ridiculed crippled child to founder of the Mali Empire are replete with details of social and cultural import, explicit and allusive, and incorporate a recasting and "telescoping" of numerous strands of historical developments that took place over several generations and perhaps even longer periods of time. The rise of Sundiata as recounted by bards thus represents an "epoch" in the history of Mandekan speaking peoples, to use Joseph C. Miller's term, and the many confusing and allusive elements in bards' accounts are seemingly best understood as "cliches", or stereotypes — as "deliberate and purposeful simplifications and thereby accurate in some respects." 91

Bards' accounts fulsomly describe Sundiata's prolonged struggle with Sumanguru Kante, the blacksmith ruler of the Soso Empire. Soumaoro possessed unmatched magical powers and allegedly the most powerful "fetish" in his secret chamber was a great serpent — the totem of the Great Python Society discussed following.

A hunter, Sundiata spent many years wandering in exile. Success against his formidable adversary came only after Sundiata acquired horses from the ruler of Mema (a Soninke-ruled state lying to the northeast along the bend of the Niger north of Mopti) and, later, from Mossi rulers to the east via Yarsi/Soninke traders; and after he obtained the support of Sumanguru's nephew and chief general, Fakoli Koroma, and numerous other smiths who abandoned Sumanguru's leadership. The latter represented an invaluable addition to Sundiata's ranks, for smiths were the fabricators of weapons of war as well as persons of enormous influence among all elements of society. Bards relate that cavalry played a prominent role at the decisive battle of

Krina, where a mounted Sundiata led his forces to victory over Sumanguru. 92

Progressive climate desiccation during the c1100-1500 dry period with the concomitant southward expansion of cavalry warfare would seem to explain cliches embedded in the oral traditions previously mentioned: Ghana's capital, Kumbi Saleh was abandoned during a drought following the slaying of the serpent Bida which lived in a well (which latter indicates desiccation, for pythons dwell in rivers and streams); Soninke gold miners and traders living in Bambuk (c200 kilometers southwards) were conquered following the slaying of the great riverine serpent by a man on horseback (an explicit reference to cavalry warfare); descendants of Mande speaking groups that fled Ghana to the upper Niger and Boure goldfields (out of range of horse cavalry) were subsequently conquered by the Soso, or horsemen (the sequence of events following progressive desiccation: Boure is c300 kilometers south of Bambuk); finally, the reassertion of power by the descendants of families that fled Ghana to Boure comes with Sundiata's acquisition of cavalry forces from Soninke and Mossi breeders and from his alliance with dissident smiths who break with Sumanguru's leadership.

The message implicitly conveyed by the cliches in oral traditions is clear: in the sahel and savanna zones Mandekalu horse warriors imposing the Mande tripartite social order prevailed over power associations, including the Great Python Society controlled by smiths. Stripped to essentials, Sundiata and Sumanguru represent the two basic conflicting organizing principles of Mande society — and western Africa generally.

Sundiata's alleged Islamic associations were added by bards in

later times. Indeed as bards relate, Mande rulers subsequently consolidated their victories by expedient alliances with Muslim clerics who supported constituted governments. In the savanna-woodland zone and northern margins of the forest zone, however, the contest between horse warriors and power associations established among West Atlantic and Gur groups continued for centuries.

Ever since Sundiata's time, Mande bards have sung the praises of the heroic warrior horsemen, and the horse became the prestige symbol for rulers across western Africa and a metaphor/cliche in bardic poetry. Possession of horses was synonymous with military power and rulership, and a status symbol even for rulers in tsetse-infested areas where horses could not long survive — where unfortunate beasts were condemned to languish months or years on display before succumbing to trypanosomes, to be replaced by other envied but doomed showpiece creatures.

Following the defeat of Sumanguru, Sundiata met with his followers at a great assembly where through his bard-spokesman, he promulgated a "constitution" for all Mande speaking peoples, defining the rights and privileges of elites, smiths and other nyamakalaw groups, thereby confirming and sanctifying the assuredly long developing tripartite social order, the culmination of an historical "epoch."

Sundiata's "constitution" was subject to a remarkable addendum a year later when he convened at Niani the first of what became an annual assembly of elites (only) to treat of administrative matters. Fakoli, the leader of the smiths and an invaluable ally against Sumanguru, whom the previous year Sundiata had invested with Sumanguru's

state of Sosso plus other territory and whose Koroma clan was accorded a monopoly ot iron-working, was absent from the meeting. Fakoli had been found insubordinate, and was forced to flee Sundiata's anger, his lands were confiscated, and the taxes of Sosso were henceforth paid directly to Sundiata. 93 That bards were afterwards unable to "publish" a finished constitution testifies to the continuing influence of smiths and titled societies. Fakoli, be it noted, is credited in traditions with being the founder of Komo. 94

The revenues of Sosso and those of the territories of subordinate rulers henceforth convened annually at Niani supported Sundiata's military forces, administration, and court life presided over by bards whose role it was to promulgate and "sell" the new order.

Sundiata and the ablest of the mansas of Mali who succeeded him practiced mansaya (astute statecraft) in consolidating their rule and in establishing and maintaining hegemony over the rulers of the conquest states founded by ambitious horse warriors along the expanding frontiers of the Mali Empire. Mansas (and subordinate rulers) were ever alert to exploit kinship and marriage relationships with other elite families, skilled in dispensing patronage and allocating offices to create "kings' men," and mindful of future relationships by keeping the sons of subordinate and tributary rulers as guest-hostages at their courts so that they would learn elite social practices, imbibe Mande culture under the tutelage of bards, form lifelong friendships and marital attachments with sons and daughters of rulers and other elite families, and otherwise forge mutualities of interests. Less subtle methods were likewise employed by mansas and other Mandekalu rulers, who consolidated personal and family power vis-a-vis competing

lineages and ambitious subordinate rulers by maintaining large members of slave warriors as personal retinues and by using slaves for certain administrative functions. 95

If cavalry warfare is associated with Sundiata's military success over Sumanguru and horses became the symbol of rulership and elite status, it is noteworthy that Sundiata and his successors supposedly maintained the capital of Mali at Niani along the Sankarani tributary of the Niger, a site well south of the "tsetse fly line" (see Map #3). Evidently economic and strategic considerations were paramount, for Niani was only a short distance southeastwards of the Boure goldfields and well sited to oversee commerce with the savanna-woodland and forest zones to the southwards. Niani is located at the apex of a "triangle" of Niger River tributaries bearing southwestwards, southwards, and southeastwards, thus well positioned to control commerce over a large area. 96

Arabic sources assert that gold and kola were the two principal sources of Mali's wealth. The gold came from Boure and from Volta goldfields to the southeast. Kola was obtained from a number of areas, most notably the forest belt of southern Guinea-Conakry and northern Sierra Leone; the area along the lower reaches of the Moa, Mano, and Lofa rivers; and from the Volta area (see Map #4).

As previously discussed with respect to Senegambia and the Guinea-Bissau region, during the time of the Mali Empire Mandekan speaking horse warriors and their retinues followed trade routes linking the savana and savanna-woodland zones to found conquest states with tributary status to Mali. Mande commercial centers among host communities were especially attractive prizes for warrior groups, which used them

as administrative centers to rule conquered territory and to levy customs duties on trading communities.

Whether all the trading and artisanal centers previously discussed experienced the second or conquest stage of the two-fold pattern discussed for Senegambia and the Guinea-Bissau region during the c1100-1500 dry period is unknown; more research is needed. That Kade came under the control of rulers of the Kaabu Empire is attested by oral traditions, and the Sundiata epic relates the same for Kissidougou. More information is needed concerning Labe, Timbo, Falaba, Musadougou, Sondougou, and other areas.

Some members of conquered societies were sold into trans-Saharan slavery via Mande trade networks, others were held in subjection as domestic slaves. The arrival of Portuguese caravels in the second half of the fifteenth century provided new opportunities for sales of war captives, redirecting a stream of slaves towards coastal-riverine areas that would swell to a flood during the seventeenth century.

Inasmuch as horse cavalry was the key to the success of Mandekalu warrior groups, ecological factors played a paramount role both in defining, and limiting, the extent of military conquests and in the spread of Mande social and cultural attributes. Indeed, Mandekan speakers explicitly recognize the significance of ecological factors, asserting that they live "where the karite grows." The karite, or shea butter tree thrives only in the savanna and northern part of the savanna-woodland zone — the "bright country" extolled by bards. 97

Changing ecological conditions during the c1500-1630 wet period may have brought about reversals: areas conquered during the c1100-1500 dry period may have been abandoned by horse warriors during the

succeeding c1500-1630 wet period, to be reconquered in the succeeding c1630-1860 dry period.

While the Mande "heroic age" ended with the collapse of the Mali Empire at the close of the fifteenth century, raiding and state-building continued for centuries — until the imposition of European rule -- along the receding forest-savanna frontier during the long dry period beginning in c1630, while Mande "cultural imperialism" continues to the present-day in western Africa among people who speak West Atlantic, Kwa, and Gur languages.

There has been little study concerning relationships between "landlords" in West Atlantic and Gur societies, Mande traders and smiths living in host communities, and incoming Mandekan warrior groups, but situations must have differed considerably according to circumstances. Mande speaking traders and smiths and their relatives and commercial associates in host communities were inevitably entangled in equivocal relationships by the arrival of Mandekan horse warriors whose predatory raiding and slaving interrupted commerce and promoted insecurity of life and property beyond the control of either landlord groups or Poro and Simo lodges. In such circumstances Mande traders and smiths must inevitably have been enmeshed in uncomfortable, perhaps at the time untenable, positions between fellow Mande groups and kinsmen in host societies. One may speculate that there would have been divisions in Mande trading communities between those who sought to profit by selling captives seized from host communities, and those involved in trading kola, malaguetta pepper, and other commodities who were committed to maintaining amicable relations with host communities.

Once a Mandekalu-ruled state was established, however, one may suppose that Mande traders depreciated their links with host groups and bent their efforts to accommodate to the new order by emphasizing their Mande kinship affiliations, shared cultural ties, etc., as discussed in the section following. Leaders of power associations must have exercised signal roles in mediating relationships between groups during the era of raiding and conquest, and afterwards.

With respect to linguistic and cultural matters, many Mande speaking groups probably fared little better than many West Atlantic and Gur speaking groups incorporated into the Mali Empire and other conquest states created by Mandekan speaking warriors. The rapid east-west spread of Mandekan dialects must be credited with the absorption of numerous Mande communities belonging to the Northern, Southwestern, and Southeastern sub-groups. As discussed in Part II, the missing parent groups living along the upper Niger from which present-day Kpelle/Guerze, Loma/Toma, Gbandi, and Gbundi hived-off must be accounted linguisticaly and culturally absorbed by Mandekan speaking groups; likewise the ancestors of the Southeastern Mande groups such as Mano, Dan/Gio, etc.

Mandekan speaking groups must likewise have absorbed numerous other Northern Mande speaking groups. These included many Soninke trading families which now speak Mandekan languages, while retaining Soninke family names which survive as linguistic and genealogical isotopes for scholars to identify. 98

Ecological circumstances protected some Northern Mande speaking groups from absorption by Mandekan speakers. Few Mandekan warriors and no cultivators would have ventured north from the savanna zone to

dwell amongst Soninke pastoralists living in the desiccating sahel and southern Sahara. As intermediaries controlling access to trans-Saharan trade and as breeders and traders controlling access to cavalry mounts, Soninke would have been treated with diffidence. And as self-conscious heirs of the empire of Ghana, Soninke resisted linguistic and cultural absorption by the Mali Empire, as Greeks to Romans.

Similarly, ecological conditions contributed to the survival of the Susu and Vai/Kono languages to the south of the broad belt of Mandekan languages extending across western Africa. Would-be Mandekan state-builders and their horses could not penetrate the rain forest zone where Susu and Vai/Kono trading families lived interspersed among West Atlantic, Kru, and Gur groups.

Social and Cultural Developments

The period c1100-1500 marked the growth and elaboration of two social and cultural systems that would long compete and coexist in western Africa: power associations controlled by smiths; and conquest states ruled by Mandekan speaking horse warriors. Besides which, the period marked the effective implantation of a third social and cultural system that would eventually supplant them both -- Islam. The issues associated with these phenomena are complex and as yet little studied by scholars. As with other matters discussed in the schema, delineation of similar developments over wide areas provides keys to identifying these and other social and cultural developments in a specific context.

Insofar as can be ascertained, Mande and West Atlantic speaking groups were matrilineal and acephalous societies with no political organizations other than family and clan affiliations until the founding of Ghana, Takrur, and other states. Seemingly, religious beliefs and practices were similar to those characteristic of societies in western Africa down to recent times: belief in a remote creator "high" god seldom interfering in human affairs; and belief in the existence of numerous spirits dwelling in the soil, water, flora, and fauna that must be propitiated, with ancestor spirits serving as intermediaries. Ritual specialists, smiths notably, prepared amulets encapsulating the powers immanent in vegetable, animal, and mineral substances. Horns, leather pouches, and other containers functioned as "power generators" that enhanced these forces. Such talismans were especially important for hunters, traders, and other travellers who ventured from their

communities and the protection afforded them by proprietary spirits and the shades of ancestors.

Nyamakalaw A special and extremely important characteristic of western African society is the presence among many groups of nyamakalaw, occupational specialists who are set apart by their craft skills, knowledge of occult powers, and endogamous marriage patterns. Smiths, bards, and leatherworkers are widespread among Mande speaking groups and among such northern West Atlantic groups as Fula, Wolof, and Serer, and are found scattered among many other West Atlantic and Gur groups. Endogamy has the obvious advantage of protecting professional secrets by imparting skills only to family members (and in some instances, selected apprentices), but the awesome powers attributed to members of nyamakalaw groups serves no less to set their members apart from other social elements.

Smiths, probably diffusing westwards from the bend of the Niger area, were almost certainly the first endogamous craft group in western Africa and as such served as the "prototype" for nyamakalaw, "casted" smiths, bards, and leatherworkers. 99

Recent studies by Patrick McNaughton elucidate the attributes of smiths and other endogamous craft groups, explaining their powers and influence in the context of western Africa belief systems. Mande speakers refer to members of the smith, leatherworker, and bard (griot) craft groups as nyamakalaw (singular: nyamakala). McNaughton draws on Charles Bird's description of nyama as "the energy of action" in translating nyama as "occult energy" and kala as "handle," as in the handle of a tool or implement. Nyamakala thus translates as "han-

dle of power," and identifies people who control important and potent services and are therefore set apart from the rest of society. 100

The origins of nyamakalaw have yet to be established, but it would seem likely that peripatetic smiths diffusing westwards from the bend of the Niger area from c300 B.C.ff. were the first nyamakala group in western Africa and the precedent for the subsequent segregation and self-segregation of bards and leatherworkers. When bards and leatherworks also became identified as nyamakalaw groups is likewise unknown, but a working hypothesis is that both groups began to coalesce during the latter part of the c700-1100 period and attained prominence during the c1100-1500 period due to the circumstances that promoted their special skills.

Like smiths, leatherworkers possess special powers to deal with dangerous substances, in their case with the powerful nyama released from slain animals. Leatherworkers may have "hived-off" from both hunter and smith groups, becoming recognized as a separate nyamakala group as they practiced their skills full time (more or less) in the entourages of horse warriors, at the courts of rulers, and living in separate compounds in trading centers. Demand for leather craft would have greatly increased during the Mandekalu "heroic age," to supply saddles, bridles, and other horse tack for cavalrymen, besides sword scabbards, knife sheaths, garments, sandals, pouches for amulets, and other leather manufactures for elites and ordinary people alike.

European trade may have contributed to the expansion of leatherworking groups in western Africa. Europeans greatly stimulated commerce in hides, especially from the sixteenth century when French and Dutch vessels purchased great quantities of cowhides in Senegal — a

trade that shifted southwards during the c1630-1860 dry period when enormous numbers of hides from Fula herds in Futa Jallon were transported to the coast for sale. Europeans likewise purchased a variety of wild animal pelts, which must have stimulated hunting many animals besides elephants for ivory. The nyama of dangerous wild animals is immeasureably more potent than that of domestic animals, and the spiritual dangers involved (plus the premium for sales of high quality pelts) would have encouraged hunters to leave the curing of feral hides to experts possessing both spiritual and professional skills. That leatherworkers exist as a separate "casted" group among Mandinka and among Wolof and other West Atlantic groups which have adopted the Mande tripartite social system, but not among Maninka and other Mandekan groups extending eastwards, indicates that leatherworking as a nyamakala profession developed west of the Niger watershed and suggests that hide trade with Europeans may have been a significant factor.

Bards were a notable feature of the Mandekalu "heroic age" of warrior elites. Whether bardship developed in West Africa, or diffused from North Africa is an open question discussed in the section following. With respect to the powers they wielded, breath is the essence of a person, as indeed is spittle. And what is more dangerous than the human voice, which can convey curses and praises, denigrate and uplift, and arouse and mediate conflict? To empower amulets smiths speak words over them, and one type of talisman consists of knotted string, each knot containing some of the smith's spittle. Words explain, educate, and convey the heritage of a people. Bards were invaluable allies to Mandekalu warriors and rulers, and to other

warrior and ruling groups in western Africa. And their praise poetry and music captivated all elements of society in Mande and non-Mande groups alike.

Bards and their families and apprentices generally subsist as cultivators, but their distinctive role in society, both male and female, was and is as historians, geneaologists, musicians, singers, and dancers, in many instances attached to the retinues of rulers and elite families. Women living at the courts of rulers or attached to elite households were often hairdressers (and reputed incorrigible purveyors of gossip). In Senegambia, the dancing of bardic women was considered lewd and suggestive, and rulers and other elite men sometimes found their reputed sensuality irresistible and married them — but only as third or fourth wives with their children excluded from elite status and privileges.

Among Mande groups, woodworkers are smiths, but Fula speaking Laobe may be recognized as a nyamakala group. Laobe travel itinerantly and produce-to-order platters, bowls, mortars, and pestles, dugout craft, and other wooden products, leaving piles of wood chips and shavings to mark their passing. Inasmuch as spirits dwell in trees, and the largest trees are the favored abodes of the most powerful woodland spirits, Leobe placate them by rituals and offerings prior to felling selected timber. 101

Weavers never became a "casted" group. As related above, weaving on narrow horizontal looms was probably introduced to western Africa by trading groups during the tenth century, or possibly earlier. Traders used slaves to produce cloth during the rainy season and controlled the distribution of their product. Looms were constructed

by smiths. Thus many weavers were unfree artisans who neither produced the tool of their craft, nor owned the raw materials, nor profited from their skills.

A final observation concerning nyamakalaw generally is that few individuals during this or later historical periods practiced their specializations full time. A few smiths living at commercial centers might work at their craft year-round, but elsewhere smiths smelted and worked iron during the dry season and farmed during the rainy season. Bards farmed during the wet season and in recent centuries, if not earlier times (?), were part-time weavers during the dry season.

The foregoing was, of course, true for other elements of society. Bozo and Somono fishing groups cultivate the flood plains along the Niger, Bani, and other rivers during the rainy season. Traders did likewise, awaiting the dry season when commodities would not be damaged by rainfall, rivers and streams could be safely crossed, and the paths of trade were open.

Mande Smiths and the Implantation of Power Associations among West Atlantic Groups Issues associated with the organization, leadership, functions, rituals, etc., of titled societies have long been obscured and made the more difficult to study from the very fragmentary and often highly emotive reporting of Europeans preoccupied with their "secrecy," alleged satanic "magical powers", and other mysterious "heathen" attributes. Moreover, until the nineteenth century, virtually all European reports concerning titled societies related to coastal and riverine groups speaking West Atlantic, Kwa, and Gur languages, when all indications are that the origins and development of

the most important power associations derive from Mande speaking groups living in the interior — many of which groups espoused Islam and no longer possessed titled societies (or only in attenuated form) by the time Europeans investigated their social institutions. Thus, many of the differences, and similarities, reported in European accounts concerning Simo and Poro practices among different coastal-riverine groups in western Africa are explicable if one considers that practices derived from the Mande heartland would have been modified and reinterpreted by Mande speaking groups and their descendants living amongst many different West Atlantic, Kwa, and Gur speaking societies.

Available evidence suggests that Poro and Simo are derived from Komo (and possibly related societies) transplanted among West Atlantic, Kwa, and Gur speaking societies by Mande speaking traders and smiths who migrated southwards during the c1100-1500 dry period and afterwards. Komo, seemingly was the most important titled society among Mande speaking groups (and continues as such in non- or incompletely-Islamized areas). Traditions attribute Komo's founding to smiths, who have ever since exercised the principal leadership roles in the society. Also, according to traditions, the society's influence expanded greatly during the time of the Mali Empire.

Komo, possibly the oldest of the "power associations" and progenitor of Poro and Simo, survives today in southern Mali among groups speaking Mandekan languages (Maninka and Bamana). Komo's role is to protect communities from dangers of all sorts, especially witchcraft, and to instruct youth. In a larger sense, Komo embodies a society's spiritual and moral values. Prior to the spread of Islam, it would

seem that Komo's purview included Mande speaking groups living across western Africa, from the sahel to the savanna-woodland zone. 102

Viewed in the most basic terms, the spread of Komo among West Atlantic, Kwa, and Gur speaking groups represents the concern of smiths, traders, and other Mande migrants that their children be enculturated in Mande ways and that their communities receive necessary leadership and spiritual protections. Smiths established Komo lodges wherever they settled, just as Muslims founded mosques in a later era. Leaders of Komo lodges were involved with all the concerns of the expatriate Mande community, and sought to exercise influence with the notables of host societies on their behalf — which they succeeded in doing to an extraordinary extent.

The reasons why leaders of Komo and Simo and Poro lodges were eminently successful in acquiring influence in host societies are manifest. Smiths possessed awesome powers, including the ability to make powerful amulets and effect a variety of cures, in which latter they were seconded by Mande traders whose far-ranging commerce enabled them to acquire information on medical treatments, including those introduced from North Africa by Muslim agency. Most important, seemingly without exception, Komo, Simo, and Poro lodges inducted children of host societies; by this means they came inevitably to influence, and control, local groups.

Influences were not all one way: over time numerous practices of Komo, Simo, or Poro lodges would have been modified according to local beliefs and practices. This notwithstanding, it is evident that smiths everywhere safeguarded leadership roles and the activities of the power associations served the interests of smiths and Mande

trading groups.

In recent times, Poro is affiliated with groups speaking Southeastern and Southwestern Mande languages and neighboring groups speaking Gur, Kwa, and West Atlantic languages in Ivory Coast, Guinea-Conakry, Liberia, and Sierra Leone. Geographically speaking, Poro may be associated with the upper Niger River trading sphere. Simo is associated with Susu groups, Northern Mande speakers who penetrated Futa Jallon via the Faleme and Bafing tributaries of the Senegal River and with neighboring West Atlantic speaking groups living in southern Guinea-Conakry and northern Sierra Leone. It is noteworthy that where groups associated with Simo and Poro are neighbors in northern Sierra Leone there is mutual accommodation and available information indicates that the patterns of hierarchical organization and functions of the two organizations are similar.

Historical sources and scholarly studies attest that one of the principal concerns of Poro and Simo was the control and protection of trade routes. Poro and Simo leaders mediated intra- and inter-village disputes, arbitrated conflicts between different ethnic groups, made and un-made village heads and rulers of larger polities, and influenced other (virtually all?) matters of consequence in communities under their purview. Poro and Simo lodges were responsible for building and keeping in repair liana bridges that spanned streams, so skillfully constructed that uninitiated persons were informed that they were created by spirits.

One of the indisputable "secrets" of Poro, Simo, and Komo is the extent and means of coordination between different chapters. Safety of travel and trade over long distances presupposes coordinated activ-

ities by chapters controlling different areas. It was essential that caravans transporting perishables such as kola from the savanna-woodland or forest zones to the savanna and sahel zones travel expeditiously without hindrance from warfare, brigandage, or extortionary tariffs. From what is known concerning the role of Poro and Simo in protecting trade routes in recent centuries, it seems safe to assume that such was the case in past times as well. How Poro, Simo, and Komo decisions were coordinated and implemented over long distances is as yet unknown, but the "Great Python Society" would seem the likely decision-making body, although information concerning it is extremely sparse. 103

Serpents, especially pythons, are attributed with extraordinary powers in western Africa, and they are widely associated with smiths. The python was held in special awe by ancient peoples, not only in West Africa, but in the Nile valley and North Africa, and extending across Europe and the Middle East to the Indian sub-continent. Beliefs in serpents' supernatural powers are recounted in a large corpus of legends and derived works of art, many of which recount variants of snake/dragon, maiden, and young man relations, usually with one of the three perishing in the encounter.

Specific to western Africa, people associate the python (Python sebae) with the powerful serpent Ningiri which dwells in the earth, in water, and in trees; consumes iron which it excretes as gold; links the sky as the rainbow; and controls rain. At home in the earth, in water, and in trees, the python links the physical world and world of spirits as no other creature and as such possesses powers that humans aspire to share. Such was the totem for the most powerful titled

society in western Africa, whose leaders were believed to control vast supernatural powers. 104

As previously related, pythons are attributed with having control over the fortunes of the Ghana Empire and the people of Bambuk. Sumanguru Kante, ruler of the Soso Empire and Sundiata's rival, had as his chief "fetish" a great serpent which lived in a large earthenware vessel and which expired following his defeat. Sumanguru's association with the controlled serpent would seem to represent a cliche in Miller's usage: that Sumanguru was leader of the Great Python Society and of Komo. That traditions attribute the founding of Komo to Sumanguru's nephew, Fakoli Koroma supports such a notion rather than otherwise, from its representing the same time-frame and suggesting a matrilineal inheritance pattern. Mande traditions also relate that sumanguru's followers afterwards migrated southwards into Futa Jallon, and it is in areas neighboring the Futa Jallon massif that early European sources provide information concerning serpents associated with power associations. 105

The ruler of the Bena state along the upper Kolente River which controlled trade in Kola and other commodities was known as "King of the Serpents," which title would seem associated with the Simo Society. 106 The end-of-the-fifteenth-century account of Alvaro Velho, the Portuguese trader who reported on visiting a shrine with large serpents, derives from the Bena area. It is noteworthy, too, that the Badiar escarpment at the northern end of the trans-Futa-Jallon route linking the upper Kolente is also reputed as a place of serpents and "genies" who control them. 107

Snakes, specifically pythons, are widely associated with the Simo

Society. Baga groups living along the coast of Guinea-Conakry continued their affiliation with Simo down to recent times, and are renowned for their nearly two meter high Bansonyi wooden helmet sculptures depicting pythons. 108

Seemingly, Poro did not spread to northern Sierra Leone until the sixteenth century, introduced there in the wake of the Mani invasions that involved Southwestern Mande groups which invaded northwards from Liberia (see Part IV). However, that Simo and Poro derive from common Mande sources and share common objectives is evidenced by reports that where the two societies meet or are interspersed there is peaceful accommodation between them and even shared memberships.

Respecting Poro leadership in Liberia, southern Guinea-Conakry, and Ivory Coast, much valuable information was collected by Dr. George Harley, a missionary doctor who served in northern Liberia from the 1920s to the 1950s and made an intensive study of African medical practices and "secret societies." Dr. Harley recorded considerable information concerning Poro generally, but could elicit virtually no information concerning an inner circle of power controlled by a "Great Python Society." He learned only that its membership was limited to "big men and zo's," rulers and healers who were leading members of Poro, and that the Great Python Society was reputed to control "much high magic." 109

If a skilled, well-connected, resourceful, and persistent investigator such as Dr. Harley could not obtain more information concerning the Great Python Society, one can only hope that others are more fortunate or, more likely, that systematic collection and analysis of oral traditions will provide a broad framework for understanding such

fragments of information as may be obtained among different groups.

Oral traditions may provide information concerning the struggle for dominance between the leaders of Komo, Poro, and Simo and the Mandekan elites which founded conquest states in western Africa, accounts which parallel the contest between Sundiata and Sumanguru, and afterwards between Sundiata and Fakoli. If the earliest episodes took place in the Mande heartland, from the latter part of the c1100-1500 dry period onwards the locus shifted southwards, for there would have been many struggles for power as Mandekan speaking horse warriors invaded West Atlantic and Gur speaking groups among whom Mande smiths and traders had lived for generations or centuries and had established power associations.

At present one can only speculate concerning the struggles for ascendancy between horse warrior groups which sought to create states and impose the Mande tripartite social system and the leaders of power associations and their followers. Such struggles must have continued for generations in some areas with many twists-and-turns of fortune, especially during the c1500-1630 wet period when Mandekan horsemen must needs have retreated northwards when areas that had become savanna and savanna-woodland reverted to savanna-woodland and forest.

Bards and the Mandekalu 'Heroic Age' State-building across the sahel, savanna, and northern part of the savanna-woodland zones by horse-owning warrior groups and their entourages was the most obvious manifestation of the "Mandekalu heroic age," but it was accompanied by a Mande social and cultural imperialism that had no less significant and even more permanent consequences for the conquered societies. The

most widely diffused dialects of the Mandekan sub-group of Mande languages are Mandinka, Maninka, and Bamana. Mandekan means "the language of the Mande" and people speaking Mandekan languages call themselves Mandekalu, "the people of the Mande," tracing their origins to the Mande 'heartland' along the upper Niger River. 110

Wherever they conquered, Mandekalu warriors imposed Mandekan languages and other cultural and social patterns. These included the Mande tripartite social system comprising elite and free persons; nyamakalaw, or endogamous occupational groups, consisting of bards, smiths, and leatherworkers; and captives, of which many were taken from conquered West Atlantic and Gur groups.

The political sphere of Mandekan-ruled states was characterized by the ascendancy of a "royal" clan, or several "royal" clans that rotated rulership between them. These and other privileged families monopolized offices, and over time there was increasing differentiation between such "royal" and "noble" families and other "free" people. To the extent they could, the ruling elites circumscribed the powers and prerogatives of power associations and the influence of smiths and others associated with them, favoring instead Muslim clerics and traders who generally reciprocated by supporting 'legitimate' authority. The struggle between traditional religious beliefs and Islam joined in this period would continue for centuries; indeed it continues in the present day.

Given the social and cultural contexts of western Africa, ruling groups must needs justify and undergird their ascendant positions by means of religious sanctions. Such were not easily claimed, nor were they ever completely accepted by subordinate groups. Although con-

quered, West Atlantic and Gur groups retained their sacral ties with the spirits of land, water, and vegetation. Mande speaking smiths controlling power associations were potential power-brokers for Mandekan rulers and elites, but only in return for reciprocal benefits, and such alliances might break-down as did Sundiata's alliance with Fakoli Koroma. Mandekan rulers might buttress their spiritual powers (or advertise such) by procuring power devices from smiths and other specialists in the occult; by broadcasting prophesies of oracles and diviners; by fostering propaganda disseminated by bards; and, increasingly as time passed, by the support of marabouts (Muslim clerics), who until the social revolution of the nineteenth century invoked the spiritual powers of Islam on the side of constituted (imposed) authority.

From what may be discerned about the c1100-1500 period and for centuries afterwards, bards constituted invaluable allies of Mandekan ruling groups from their "explaining" and justifying the Mandekan state-system imposed on conquered societies and the privileges and prerogatives arrogated by rulers and warriors. They were likewise one of the most important agents for the diffusion of Mande social and cultural attributes among non-Mande groups. As previously related, bards as "masters of the spoken word" bards exercised a notable role in spreading Mandekan dialects and in so doing contributed to their high degree of syntactic regularity, linguistic simplicity, and mutual intelligiblity. If the consequences of bards' activities are evident, how they came to exercise these roles is not.

The origins of bards as an endogamous group living among Mande speaking peoples (and other language groups) remains to be determined,

but there can be little doubt that they greatly increased in numbers and influence during the Mandekan "heroic age," even as bards did in feudal times in Europe. Conceivably, bardship is extraneous to sub-Saharan Africa and was introduced from North Africa along with smiths and iron-working. A North African/Mediterranean origin for smith-bards would plausibly explain the diffusion of serpent-dragon traditions widespread in Europe and the Middle East (including the Nile valley) in ancient and medieval times, accounting for smith-snake associations.

One of the provocative cliches found in the Sundiata epic is that Sumanguru combined the attributes of a bard and woodworker with those of a smith and sorcerer. Sumanguru is depicted as speaking on his own behalf, in contrast to Sundiata who addressed audiences only through his bard, Balla Fasseke, thereby (according to traditions) establishing the precedent for the ruler-spokesman/linguist relationship that subsequently prevailed. A smith-woodworker, Sumanguru made the balafon he played, but Balla Fasseke supposedly played the instrument with superior skill; and the balafon and kora (a harp lute) are the principal instruments of accompaniment used by bards. 111

Smiths exercise many skills down to the present-day, e.g., working iron, creating gold and silver jewelry, compounding amulets, carving masks, etc., so just as present-day smiths may freelance in sub-specializations of their craft such may have been the case in past times, with bards, leatherworkers, and woodworkers all deriving from smiths (?).

Whatever may be the case for the origins and spread of bardship in western Africa, bards indisputably exercised a role of surpassing im-

portance for state-builders and horse warriors generally. Bards composed and broadcast praise poetry with musical accompaniments which celebrated the deeds of warriors and rulers, a combination that remains enormously popular to the present day. These narrations were, and are, constantly "rewritten," with deeds elaborated-upon and reputations constantly reburnished and embellished for the edification of heroes' descendants. Kinship links to Sundiata and his principal associates is a consideration of great importance, and bards have created such genealogical webs that they can no longer untangle credible from spurious claims — or find it in their best interests to assert that they cannot. 112

The most renowned bards possess surpassing abilities in creating praise poetry and musical accompaniments. Especially felicitious amalgams of words and music ensured the widespread diffusion and continual repetition of lays over the centuries, ensuring immortality for the persons so honored and social recognition for their descendants. All Mande share this rich heritage; even though they live in a vastly different world today, what Mande speaking person does not instantly respond to the stirring Dyandjon war hymn dedicated to Fakoli Koroma, the douga that praises great men, or the marvellous lilting music that accompanies the narration of the exploits of the Senegambian nyancho Kelefa?

Bards' oral literature and musical accompaniments captivated all elements of Mande society, and non-Mande as well, including the groups which Mandekan warriors conquered. The activities of bards probably were second only to traders in spreading Mandekan languages and Mande culture among West Atlantic, Kwa, and other groups in West Africa, and

thereby prepared the way for further social and cultural "Mandinkization," including conquest and rule by Mandekan state-builders.

Bards were, and are, far more than passive reciters of others' deeds; they exercise an active, if indirect, role in public affairs by challenging their auditors to match or surpass the exploits of their predecessors. It is with respect to their role as creators and manipulators of their patrons' reputations that bards exercised their principal contribution to the Mandekan "heroic age," and subsequently influenced Mande society down to the present day. For not only did bards chronicle an "heroic age," they at the same time acted to create it as well.

In an apt phrase, Charles Bird characterizes bards as "facilitators of action," men who provoke others to attempt deeds of renown. By singing the praises of past heroes, for bards never praise living men, bards insidiously inflame the vanities of their auditors and provoke them to emulate their forebears and earn equivalent, or greater, reputations to ensure their own immortality -- and, concomitantly, that of the bards who chronicle their accomplishments in poetry and music. Put another way, Bird and Kendall remark that "a name must be won not only in the arena provided by one's peers, but also in the abstract arena created by one's ancestors." 113 And who but bards, one may ask, control entry to reputational arenas past and present?

As validators of status and incitors to action, bards consciously manipulate, and endanger, the fundament of Mande society by exploiting the dialectical tension between the individual and the group. As Bird and Kendall explicate, heroes are "agents of disequilibrium" whose acts threaten the fabric of society even as their achievements may

further the common good, perhaps even be requisite to the group's survival. The inherent tensions between the individual and the group may be understood as the intersection of two axes: "the axis of individuality, referred to as fadenya 'father-childness,' and the axis of group affiliation, referred to as badenya 'mother-childness.'" The first is oriented toward individual reputation, the latter toward the total set of rights and obligations of the social group to which the individual is affiliated.

> The fadenya-oriented actor regards obligations to the social group as impediments to his individual quest for reputation--impediments which he must overcome, actually or symbolically, to be recognized as special. In the Mande world fadenya is thus associated with centrifugal forces of social disequilibrium: envy, jealousy, competition, self-promotion--anything tending to spin the actor out of his established social force field.
>
> Badenya, "mother-childness," is associated with centripetal forces of society: submission to authority, stability, cooperation, those qualities which pull the individual back into the social mass. Since ideally one cannot refuse the request of a baden, and individual's wishes must often be subordinated to the interests of other members of his group. From badenya arises social solidarity, security, and assurances that members of a group will act in concert to defend their collective worth. The larger the social collectivity, the greater its social gravity or force. 114

Bards may help to create the dynamism requisite to provoke individuals to action, whether socially advantageous or otherwise. But to achieve an objective, an individual must have sufficient nya, "means" to act successfully. An individual's birthright provides some nya, such as that which enables a smith to perform particular acts and be

protected from their consequences. One may acquire additional powers and protections from smiths and other specialists in the occult, which amulets or "power generators" concentrate and magnify many-fold the immanent powers of the animal, vegetable, and other substances they encapsulate. Oracles and diviners (including marabouts) likewise play a role, for they may foretell the outcome of a hazardous enterprise. Even the bravest (or most predatory) of warriors would be daunted by adverse predictions concerning the spiritual forces arrayed against his designs to rend the social fabric expressed by badenya. 115

Provoked to action by bards, assured of success by the auguries of diviners and marabouts, possessed of talismans to ward off the nyama released by their impious and anti-social acts, star-struck individuals had no compunction in rending apart and despoiling other societies, willfully disregarding the most sacrosanct values of hospitality, landlord-stranger reciprocities, and respect for the spirits of the land. To obsessed men, belief in their destiny was a compelling motivating force. As Winifred F. Galloway explains,

> This internal gift generated its own means of manifesting itself. However, the automatic ability of Destiny to bring oneself into being was limited only to simple manifestation. Destiny is rather like a seed, which contains within itself the energy to send out shoots and roots without any external food supply. But once it has manifested life, it has used up its internal resources and needs another source of food if it is to grow. Its owner must prepare its ground, water it, cultivate it, prune it, and weed it carefully if he wants it to achieve its highest potential. Similarly a man with Destiny to be ruler knew it would manifest itself at the right time. Meanwhile, if he was wise, he consciously prepared the means by which he would keep it alive and make it grow strong; his intelligence, his following, his command of magical

> means, his knowledge of government, and so on. If he prepared his talents well, he might become a great ruler.... If, on the other hand, he relied only on his Destiny without cultivating any of the other qualities of rulership, he would become Mansa because it was his Destiny to do so. But he would be only a cipher, controlled by more able men, and perhaps would not even last very long. It took personal effort to be a great ruler. 116

To summarize, during the Mandekan heroic age bards acquired immeasureable influence. They confirmed and justified elites' claims to status and privilege and the subordination and responsibilities of other elements of society. They articulated Mande feelings of superiority vis-a-vis other societies. They were arbiters and regulators of court culture, of practices and precedents. They were the repositories, and the manipulators, of history of all sorts, not least the genealogies of rulers and elites whose reputations they held hostage. Bards arrogated roles as preceptors of youths, advisors to rulers, and emissaries between states as privileged non-combattants who must not be captured or injured, they asserted, for retribution would follow. As "instigators of action" (acting at times in collusion with royal patrons, one supposes), bards contributed in no small measure to the expansion of Mali and its satellite states by inciting, cajoling, and otherwise manipulating warrior elites to undertake daunting campaigns and accomplish foolhardy feats of personal bravery.

During the c1100-1500 and c1630-1860 dry periods generation after generation of ambitious young men sought their destinies and found outlets for their ambitions by raiding and founding conquest states along the borderlands of the southward advancing savanna-woodland ecological zone. Some warriors served as mercenaries for Mandekan and

non-Mandekan rulers, e.g., Banyun states (and occasionally usurped power?).

The decline and disintegration of Mali during the fifteenth and sixteenth centuries and the rise of Songhai seems to have had little consequence with respect to the spread of Mande social and cultural attributes among non-Mande peoples, nor of any diminution of the prestige accorded the Mali Empire. Fifteenth and sixteenth century Portuguese sources relate that informants in western Africa continued to express awe and deference concerning the far-off mansas of Mali.

If the political and military power of Mali waned, such was not the case for the social and cultural influences emanating from the Mande heartland carried along the commercial networks that linked Mande trading communities across western Africa. Such influences have continued strongly to the present day. The Mande heartland was, and continues to be, a cultural lodestar. Charles S. Bird cogently remarks on this phenomenon:

> The Mande is retained as the cultural focus by the most farflung of its members. The merchants who established trading colonies in Kong and Bonduku in the Ivory Coast, and those who colonized the Gambia sent their sons back to the Mande to learn the finer points of Mande culture and perhaps to return with a wife. Such a process served to cement the relations between the Mande heartland and its colonial extensions and in so doing aided in the conservation of the original linguistic norms and the moderation of the forces of linguistic change. 117

The extensive oral literature in Mandekan dialects is of a particular importance, contributing to and reinforcing Mande identity, as well as reinforcing Mandekan linguistic norms. Most important are the

oral presentations performed by Mandekan bards. Bird suggests that the far-ranging bards "have functioned as an informal 'Academy', exerting a normalizing force on the society's linguistic behavior. 118 Bards perpetuate and continually enrich an oral literature replete with heroic historical sagas that foster family and clan pride and the ambition of individuals, and a feeling of their separateness and superiority vis-a-vis others. Like the fanciful "moonbeams" that bind together countries of the British Commonwealth, Mandekan speakers possess a cultural and social heritage of transcendent qualities.

Islam and the Mandekalu Islam was introduced to western Africa via trans-Saharan trade routes following the Arab conquest of North Africa during the seventh century. The ruler of Takrur reportedly converted to Islam during the first half of the eleventh century, and Takrur provided strong support for Berber leaders who founded the Almoravid movement and carried on a protracted war against Ghana during the second half of the eleventh century — a congruence of interests that may be seen as a concerted attempt on the part of Takrur's rulers to supplant Ghana as the principal terminus of the western trans-Saharan trade route.

The eleventh century has been identified as a time for the rapid spread of Islam elsewhere in western Africa. Significantly, and of special interest in the context of the schema, Al-Bakri (1067-8) reports the conversion to Islam of an unidentified Mande-speaking ruler after the prayers of a Muslim Arab ended a severe drought. D. T. Niane estimates the date of the ruler's conversion to around 1050, several decades prior to the beginning of the postulated c1100-1500

dry period. Supposedly, upon conversion, the Mande ruler destroyed his "fetishes." 119

The theme of change from old beliefs to new during a time of drought is the core of the Bida legend previously discussed: the killing of the great serpent brought ecological disaster to Ghana. How much of a factor the desiccation of western Africa may have contributed to the spread of Islam cannot be known, but drought and famine times would be compelling inducements for people to give a hearing to the emissaries of a new religion offering succor from environmental disaster.

During the c1100-1500 dry period, Islam spread widely in the area controlled by the Mali Empire and peripheral Mande-ruled states, likewise among some traders of the West Atlantic and Gur speaking groups associated with Mande speaking traders. There were significant advantages for mansas and other elites in stratified societies and for traders living in acephalous societies to become Muslims. Shared beliefs fostered commercial and political links with Berbers, Moors, Arabs, and rulers of North African states, and Islam provided rulers with additional spiritual protections as well as the legalistic support of Muslim jurists, although as Trimingham argues, rulers abandoned none of the formidable spiritual protections afforded by traditional charms and amulets, and certainly none of the powers afforded by kinship affiliations and customary law. The influence of the Maliki school of law was significant in the social sphere, for it promoted the transition from matrilineal to patrilineal descent patterns in the selection of rulers, reckoning of inheritance, and other matters. And marabouts purveyed Islamic amulets containing

verses of the Koran and practiced magico-medical treatments which rivaled those of traditional healers and oracles. Within and without the Mande-controlled sphere of western Africa, the reputation of renowned marabouts came to rival those of leaders of Komo, Simo, Poro, and other power associations. 120

Mande speaking traders who practiced and spread Islam among West Atlantic and Gur host communities did so in paradoxical circumstances. If Islam provided them with valuable protections and professional linkages in the wider sphere of their activities, security of their persons and property in host communities continued to derive from landlord-stranger reciprocities enhanced by their affiliations with power associations which controlled trade routes and protected traders and travellers generally. It was thus expedient for traders to maintain affiliations with power associations even as they introduced magico-medical treatments and amulets derived from the Muslim world, promoted literacy in Arabic, acted as scribes and counselors for host elites, founded mosques, and otherwise prosyltyzed on behalf of Islam. Such parallel circumstances have continued in western Africa down to contemporary times.

Portuguese Reconnaissance and Trade, 1440s-c1500

When Portuguese mariners reconnoited the coast and rivers of western Africa from the 1440s onwards they found that most, but not all, African societies were disposed to trade — so long as the newcomers conformed to African patterns of commerce and social intercourse. Portuguese traders quickly established a thriving commerce with the Jolof Empire controlling northern Senegal. Wolof

elites prized horses above all else, exchanging captives and other commodities for horses brought from Portugal and North Africa, and from the 1480s from herds established in the Cape Verde Islands.

First contacts were strikingly different with respect to the Banyun-Bak commercial network that commenced at the Cape Verde peninsula. Niominka mariners challenged the southward advance of Portuguese caravels for a decade; and it was not until 1456 when three well-armed caravels won a decisive engagement with a flotilla of almadias in the lower Gambia River that Niominka and Banyun decided to negotiate peaceful commercial relations with Diogo Gomes. Gomes also established amicable relations with Biafada mariners in the Geba River the same year, opening the way for follow-up reconnaissance voyages to press southwards along the Upper Guinea Coast.121

Portuguese and the other European mariners who followed them were bewildered by the numbers and differences of the African societies they encountered in Senegambia and along the Upper Guinea Coast, but found that most West Africans were eager to trade, even to facilitating commerce by learning Portuguese and other European languages. However, some acephalous coastal-riverine groups in the Guinea-Bissau region did not welcome European strangers, just as they prohibited Mandinka for fear of their slaving activities. Diola, Balanta, and Bijago groups generally excluded Portuguese and Luso-Africans from their territories, or restricted commercial exchanges to places and arrangements of their choosing.

How Africans and Portuguese accommodated to each other during the first century of contact is poorly recorded in European sources, for only sparse accounts are extant, whether reports of the pioneer

voyages of reconnaissance or the commercial voyages that ensued. Dissemination of information concerning the Portuguese voyages of exploration was restricted to protect national secrets from foreigners, while merchants and traders were reticent to make available information relating to their commerce which oftentimes was carried on in contravention of official regulations and royal monopolies. For example, there are records extant concerning only twenty voyages to all parts of the world prior to the mid-sixteenth century, and there is not a single voyage for which a complete set of papers exists.122 And for reasons discussed in Part IV following, Portuguese and Luso-Africans living in West Africa wrote few accounts concerning their activities and these are especially circumspect regarding trade.

IV. WESTERN AFRICA c1500-1630; A BRIEF, BUT EVENTFUL WET PERIOD

The wet period of c1500-1630 was relatively brief, but contributed to a number of historical developments affecting the peoples of western Africa.

The northward movement of the "tsetse fly line" some 200 kilometers and more had significant consequences for pastoral groups and for horse warriors. Groups especially affected were Fula herding zebu cattle and the elites of stratified societies which relied on cavalry forces to maintain their power. Fula practicing independent pastoralism with zebu cattle were constrained to migrate northwards with their herds to stay ahead of the advancing "line." By way of compensation, the generally well-watered pasturelands during this period promoted significant increases in herds, which enabled Fula living in northern Senegal to develop an extensive commerce in cattle hides with Europeans via Wolof and Serer intermediaries.

Rulers of stratified societies in western Africa were in many cases unable to maintain control over territories incorporated into their states during the c1100-1500 dry period. In Senegambia, the Jolof Empire's cavalry force was decimated by the northward advance of tsetse infestation, likewise that of the Mandinka ruled Casa state in the Guinea-Bissau region. To the east, during the sixteenth century Songhai cavalry were unable to conquer the southern Malian territories along the upper Niger River. And at the close of the century, a Moroccan expeditionary force took advantage of the "green" Sahara to cross the desert and conquer the area around the Niger bend, only to

be unable to advance southwards due to the presence of tryponsomiasis, malaria, and other diseases.

As with pastoralists, cultivators generally prospered during the c1500-1630 wet period, harvesting ample food supplies during all but a few (?) drought years. They were thus in favorable circumstances to engage in commerce with Portuguese and other Europeans according to their own interests — this in contrast with the c1630-1860 dry period following, when droughts and famines exacerbated inter-group relations and promoted warfare and slave-raiding to the ultimate benefit of European traders.

African trade during the c1500-1630 wet period was characterized by expanding commerce in a wide range of commodities, including gold, ivory, malaguetta pepper, beeswax, hides, and cotton cloth. Commercial networks benefitted from the replenishment of rivers, streams, and other bodies of water linking areas where only traces of dried-up watercourses exist today. African participation in the slave trade during this period principally involved the elites of the Jolof and Mandinka states of Senegambia and the Guinea-Bissau region who purchased horses to replace mounts lost to disease and, along the southern part of the Upper Guinea Coast, Mani invaders who sold Bullom captives taken during their conquest of the coastal region of Sierra Leone and southern Guinea-Conakry.

During the c1500-1630 historical period African societies continued to maintain control over visiting Europeans according to the longstanding West African patterns of treating stranger-traders. But the workings of landlord-stranger reciprocities gave rise to a new and unprecedented social grouping — Eur-Africans — and Europeans intro-

duced a wide range of new commodities and social and cultural influences to western Africa, which included distilled spirits and firearms, European, Asian, and American plants and domestic animals; and new technologies, tools, and patterns of thought and belief. The societies of western Africa were reasonably successful in coping with these new circumstances during the c1500-1630 dry period, but they would be severly challenged in the historical period following.

Climate and Ecology

By the close of the four centuries' long dry period lasting c1100-1500 western Africa's ecological zones were several hundred kilometers to the south of where they had been during the c700-1100 wet period. But beginning c1500, there was significantly greater rainfall for approximately a century-and-a-third, which in ecological terms is a relatively brief period of time. The c1500-1630 wet period is as yet imperfectly charted, both for its duration and for its manifestation in different parts of western Africa. Nonetheless, it is evident that the short term climate change had numerous and significant consequences for the peoples of western Africa.

Insofar as is presently known, all parts of western Africa received increased amounts of rainfall and everywhere there was ecological reversal along the borderlands of ecological zones. How much additional rain fell in different areas of western Africa and the distances to which climate zones "migrated" northwards remains to be determined, likewise the consequences for human and animal populations. That there was at least one interlude of sparse rainfall is

attested by a Portuguese trader's references to drought and famine conditions in Senegambia and the Guinea-Bissau region in 1541 and 1542.123

Map #2 depicts the projected ecological changes during the course of the c1500-1630 wet period. Presumably the most rapid changes occurred in the northernmost areas, where several years of increased rainfall would have significantly improved pastures in the sahel and savanna zones so as to support larger numbers of livestock and pastoralists. The consequences of increased rainfall likely were less significant for cultivators in the savanna-woodland zone, and probably inconsequential for the inhabitants of the forest zone.

Berbers, Moors, Soninke, and other herding groups could move considerable distances northwards during this period, reclaiming pasturelands in the Sahara abandoned during the c1100-1500 dry period. From all accounts, trans-Saharan commerce flourished during the c1500-1630 wet period, notably to the advantage of the Songhai Empire, which was able to control trade routes farther northwards than either Ghana or Mali had achieved. Ultimately improved conditions in the Sahara were disastrous for Songhai, enabling a Moroccan expeditionary force to cross the desert in 1590-91 and conquer the bend of the Niger area -- but not farther southwards due to the northward advance of tsetse flies and anopholes mosquitos.

Increased rainfall during the c1500-1630 wet period resulted in the northward advance of the "tsetse fly line," perhaps by 200 kilometers or more (compare Map #2 and Map #3), greatly reducing the size of the cavalry forces of the Jolof Empire and the Mandinka states from Senegambia and the Guinea-Bissau region eastwards across the Mande

heartland to the inland delta of the Niger, and compelling pastoralists with zebu cattle to move their herds northwards. Likely the pattern of tsetse infestation was uneven: where herds were relatively large, browsing animals would slow the growth of bushes and trees that harbor tsetse flies; conversely, where pastoralists abandoned areas due to conflicts or other reasons, the spread of vegetation would have been more rapid, resulting in a mosaic pattern along the advancing borderlands of the savanna-woodland zone.

Available evidence suggests that independent pastoralists herding zebu cattle north of the advancing "tsetse fly line" significantly increased their herds during the c1500-1630 wet period. Such is indicated by the ongoing migrations of Fula eastwards across the savanna zone seeking new pasturelands, and from the evidence of the large quantities of hides sold to European vessels trading along the coast of Senegal during this period. There is reason to suppose, too, that pastoralist groups, Fula especially, increased in numbers, except of course in areas where they were subject to chronic warfare and slave raiding; such is suggested by the importance of the Fula-ruled Fuuta Tooro state established during this period, and by the prominent historical role exercised by Fula groups during the ensuing c1630-1860 dry period.

For cultivators, increased annual rainfall meant improved and more dependable crop yields, which higher productivity likely contributed to significant population increases. Available evidence suggests that cultivating groups remained where they were during the course of the c1500-1630 wet period, rather than moving in order to find ecological conditions similar to those they had been accustomed to during the

c1100-1500 dry period. Such is indicated by linguistic data compiled from European sources, which show that agricultural groups along the Atlantic seaboard did not move from the areas where they were first reported by European mariners during the fifteenth century (nor did they subsequently move during the ensuing c1630-1860 dry period)124

Groups living in the forest zone and along the northward moving borderlands of the forest and savanna-woodland zones shared the generally prosperous conditions of groups living in other ecological zones. They participated in a thriving commerce in kola and malaguetta pepper promoted by the general wellbeing of populations living to the northwards and expanding trans-Saharan markets, and by the rapidly developing coastal commerce with Portuguese and other Europeans.

Indications are that the forest zone expanded northwards much more slowly than any of the other ecological zones, with rain forests probably attaining the limits projected on Map #2 only during the closing decades of the c1500-1630 wet period. Recent investigations in Brazil show that it takes more than a century for the full development of the ecology ot a rain forest, whether regeneration from seeds and roots of an area cleared for cultivation by slash-and-burn methods, or completely new growth from seeds disseminated from neighboring forests or by agency ot birds and bats.125

It is evident, moreover, that the regeneration of rain forests was prevented, or attenuated, in areas where there were significant human populations and/or extensive exploitations of woodlands. The latter was notably the case in Futa Jallon, where from all indications smiths significantly increased their exploitation of forests while expanding iron production during this period. Portuguese sources testify to

augmenting exports of iron bars from Futa Jallon to the coast, whence the bars were transported northwards by African, Portuguese, and Luso-African trading craft (see Map #9).126

Smiths' ongoing exploitation of Futa Jallon's timber resources in charcoal-making continued to open the way for Fula herders with ndama cattle, though it seems likely that Fula migrations southwards into Futa Jallon would have slowed during the c1500-1630 wet period, to become a continuing cattle drive during the droughts that desiccated northern pastures from the beginning of the c1630-1860 dry period.

Commerce and State-Building

Much remains to be learned concerning trade and political developments during this relatively brief historical period, but it is evident that climate change contributed to important commercial and political developments. The northward advance of the "tsetse fly line" during the c1500-1630 wet period decimated horse herds across a wide belt of territory from Senegambia to the bend of the Niger, contributing significantly to the fragmentation of the Jolof, Mali, and Songhai empires, as well as numerous lesser polities.

Significantly, too, just as horse-owning elites found it difficult, or impossible, to maintain rule over areas in the savanna-woodland zone conquered during the c1100-1500 dry period, so too did Mande speaking traders find it increasingly difficult to maintain profitable commercial links with West Atlantic, Kwa, and Gur speaking groups living in the savanna-woodland and forest zones due to the growing competition of European and Eur-African traders engaged in

coastwise and riverine commerce. The c1500-1630 period represents an era of transition during which the commerce of each of the climate zones of western Africa was increasingly reoriented from the interior to the coast — frequently to the loss of Mande speaking traders and to the benefit of West Atlantic, Kwa, and Gur speaking traders.

Consequences of Ecological Changes on Political Systems

Doubtless numerous factors contributed to Mali's decline and the rise of Songhai, but the consequences of changing climate patterns would seem likely to have been one of the most, if not the most, important. The same may be said for the break-up of the Jolof Empire, and for some of the Mandinka-ruled states of Senegambia.

The decline and fragmentation of the Mali Empire began during the latter part of the c1100-1500 dry period and extended through much of the c1500-1630 wet period. Mali's loss of control over its northern territories coincides with the advancing desiccation of the c1100-1500 dry period, during which pastoralists living in the southern Sahara and sahel zone were constrained to migrate farther and farther southwards.

During the first half of the fifteenth century, Berbers pressed southwards by the advancing Sahara raided Malian territory, and Timbuctu came under Berber control. Songhai forces raided westwards from the bend of the Niger, and Mali was invaded from the south by Mossi, which latter were able to maintain numerous horses due to the southward advance of the "tsetse fly line." During the latter part of the fifteenth century, Berber control of Timbuctu was supplanted by

the Songhai, whose military leaders effectively combined the use of cavalry forces with control of the Niger by river craft.127

Sonni Ali (r.1464-1492), founder of the Sonhai empire, consolidated Songhai control over the interior delta of the Niger, but Malian forces retained control over the southern territories. The onset of the c1500-1630 wet period was an important — perhaps the crucial — factor contributing to Malian resistance during the sixteenth century, especially with respect to Songhai cavalry deployment. Niani, Mali's capital, was captured for a brief period of time in the 1540s, but Songhai forces never again penetrated so far south into the area that now lay along the southern margin of the savanna-woodland zone, hundreds of kilometers south of the projected "tsetse fly line" (see Map #2).128

Reference to Map #2 shows that increased rainfall during the c1500-1630 wet period diminished the commercial and strategic importance of the area around Niani — which circumstance must have contributed to Songhai's rulers not pressing for its occupation. Whereas during the c1100-1500 dry period Niani's site at the apex of tributary rivers of the Niger coursing southwards through the savanna-woodland and forest zones had guaranteed control over the movement of kola and malaguetta pepper brought from the south, during the c1500-1630 wet period the northward movement of ecological zones resulted in kola and, probably, malaguetta pepper being available in areas to the north of Niani as well as to the east and west.

Mali's rulers failed to regain the empire's former territories in the wake of Songhai's defeat by the Moroccan expeditionary force. Shortage of cavalry mounts was a major liability, likewise the super-

iority of the firearms of the Moroccans and their allies. The lands and peoples ruled by the mansas of Mali continued to dwindle, until all that remained was the Keita clan's own patrimony.129

If Mali's power diminished and eventually the empire disappeared, not so its renown, for Mande bards continued to celebrate Mali's glory and disseminate Mande social and cultural attributes across western Africa. Rulers of autonomous Mande states, including those of the expanding Kaabu Empire, long continued to acknowledge the suzerainty of Mali's mansas, in word if not in deed, and after Mali ceased to exist they maintained its court culture, social institutions, and the cultural heritage associated with the Mande heartland even as the economies of their states became increasingly reorientated towards the Atlantic and European commerce.

Just as the c1500-1630 wet phase brought mixed benefits and disadvantages for Mali, such was also the case for the Songhai Empire. Increased rainfall in the Sahara enabled Songhai's forces to prevail over Berber groups far out into the desert.130 Conversely, the unusually favorable conditions along trans-Saharan routes during the latter part of the sixteenth century made Songhai vulnerable to attack from Morocco.

The Moroccan expeditionary force equipped with firearms which crossed the Sahara in 1590-91 defeated the Songhai army and occupied the bend of the Niger. However, it was unable to conquer Songhai territories to the southwards due to Songhai resistance and disastrous losses of horses and men to trypanosomiasis, malaria, and other diseases endemic in the advancing savanna-woodland zone (see Map #2).131

Cut off from sahelian horse breeders by Moroccan forces and unable to maintain cavalry mounts in the territories they held, successive rulers of the Songhai Empire were unable to regain the conquered territories. The Songhai Empire, once fragmented, never recovered and its constituent territories were not again consolidated into a single empire until the time of Al-hadj Umar at the close of the c1630-1860 dry period, when cavalry forces could once again dominate the lands between the upper Senegal and upper Niger rivers.

The consequences of climate change during the c1500-1630 wet period were no less significant for the Senegambia and Guinea-Bissau region. The northward movement of the "tsetse fly line" during the sixteenth century greatly diminished the cavalry forces of the Mandinka-ruled states of the Guinea-Bissau region of the Jolof Empire, which latter state had reputedly possessed a vaunted 10,000 horses around 1500. Mandinka and Jolof warrior elites nonetheless strove to maintain their status as cavaliers regardless of adverse circumstances, which obsession redounded to the profit of Portuguese traders and horse breeders in the Cape Verde Islands.

The Mandinka state most affected by the depletion of its cavalry forces was the Casa state, which during the early sixteenth century was able to conquer much territory from the Banyun states extending between the Gambia and Cacheu rivers. During the time of its greatest power, Casa reputedly possessed some 5,000 horses.132

Casa's conquest of Banyun territories was arrested and finally reversed during the last two-thirds of the sixteenth century by a combination of the attrition of its horse herds and naval blockades instituted by Banyun states to prevent Portuguese and Cape Verdean

vessels from supplying remounts. Banyun closed the Casamance River and Vintang Creek to Portuguese and Cape Verdean vessels, and vessels which traded with Mandinka states along the upper Gambia had to run a gauntlet of Banyun-Bak war almadias patrolling the lower river and blockading the Casa port of Tendaba.133

By the close of the sixteenth century, the trading outlet at Sarar on the north bank of the Cacheu River that Casa had conquered was recaptured by Banyun, together with much territory along the middle Casamance River. Banyun hostility towards Portuguese for trading with Casa ended, with Banyun inviting Portuguese and Luso-Africans to settle in their territories for mutual advantage. Weakened by these and other setbacks, much of Casa's territory along the upper Cacheu River was annexed by the Mandinka state of Birassu, and its lands along the Gambia River were taken over by the Mandinka state of Kiang.134

While Casa fought its long war with the Banyun states, the Jolof Empire fragmented into its constituent parts. The revolt was led by Cayor from the 1540s, and it is noteworthy that Cayor's territory was located north of the "tsetse fly line" (see Map #2 and Map #10). Each of the component parts of the Jolof Empire, excepting Dyolof, henceforth engaged in independent trade with Europeans, maintaining "corridors" to the Senegal coast (see Map #10). From the second half of the sixteenth century onwards, an extensive and growing commerce in hides, cotton cloth, and beeswax testify to the existence of relatively peaceful conditions in Senegal.

While the Jolof and Casa states declined and fragmented during the c1500-1630 wet period, the Futa Toro area assumed new importance.

Around the beginning of the sixteenth century, a Fula dynasty, the Denankoobe, supplanted the Soninke-derived Manna dynasty which had ruled from the close of the tenth century.

Fuuta Tooro, as the new state is known, benefitted from the geographical advantage of lying above the "tsetse fly line," having access to additional horses as needed from Moors and Berbers living across the Senegal River, and the opportunities derived from serving as an intermediary in north-south caravan trade and east-west riverine commerce. North-south commerce included horses and donkeys and commodities obtained from the trans-Sahara trade in return for kola, iron, and captives sold northwards from the Kaabu Empire; while east-west commerce passing through Fuuta Tooro included gold from Bambuk via the Soninke-ruled state of Gajaaga and cloth produced across the savanna zone, in exchange for salt, kola, and European products. The principal commodity produced in Fuuta Tooro was hides from Fula cattle, which were sold by the thousands to European vessels trading along the coast of Senegal.135

Commerce in hides was particularly attractive to Dutch traders, who visited Senegal in growing numbers from the last decade of the sixteenth century to barter European-made iron, cloth, spirits, and other commodities. French and English vessels likewise resorted to the Petite-Cote, as French came to term the coastline between Cape Verde and the Sine-Saloum estuary where Cayor, Baol, Sine, and Saloum all possessed commercial entrepots (see Map #10).

Portuguese merchants could not compete with better supplied European rivals, and by c1580 vessels from Portugal ceased to trade along the Senegal coast. Cape Verdean vessels, however, continued to fre-

quent Senegal as part of a series of barter exchanges that involved coastwise trade as far south as Sierra Leone, while Luso-Africans living along the Petite-Cote were associated with the Banyun-Bak and Biafada-Sapi trade networks that exchanged Senegambian cloth and salt for kola, malaguetta pepper, and iron bars manufactured in Futa Jallon.136

The date has yet to be established, but it was probably during the latter part of the c1500-1630 wet period that Lebou seafarers migrated southwards from the mouth of the Senegal River to settle on the Cape Verde peninsula, the migrations likely stimulated by growing European trade in the area. Lebou fishermen perhaps already had a pattern of seasonal migration southwards during the hivernage (rainy season) as they have had in recent centuries, and by settling permanently on the Cape Verde peninsula they had opportunities for trade and for hiring as grumetes on European vessels. Salt making along the Petite-Cote would have been less productive during the moister climate pattern, which may have promoted a coastwise salt trade by Lebou mariners southwards from the salt pans at the mouth of the Senegal River.137

The effects of the c1500-1630 wet period on trading patterns in the interior of western Africa are less easily analyzed than those for coastal areas. One predictable consequence of the northward movement of ecological zones is that kola, malaguetta pepper, and other savanna-woodland and forest products would have been available farther and farther to the north closer to market centers along the Senegal and Niger rivers and their tributaries. Consequently, Mande speaking traders and other trading groups would have ventured less and less far south, reversing the centuries' long pattern of the c1100-1500 dry

period. Such would have diminished Mande commercial, social, and cultural linkages with the more distant West Atlantic, Kwa, and Gur groups at the same time that the latter became increasingly reoriented towards trade with coastal and riverine groups involved in trade with Europeans and Eur-Africans. Such proved especially challenging for Mande traders, inasmuch as Europeans competed for some of the same African commodities and provided substitutes for others.

Seemingly one area of major trade reversal vis-a-vis Mande traders in the interior and Europeans on the coast involves modern-day Liberia -- the malaguetta or "grain" coast, as Europeans termed the highly productive area between Cape Mount and Cape Palmas/the Cavalla River. The reorientation of trade from the interior to the coast would seem to be a significant factor associated with the Mani invasions of Liberia and Sierra Leone in the mid-sixteenth century.

The Mani Invasions and Their Consequences Complex and interrelated issues associated with the Mani invasions have long challenged scholars. Following is an analysis combining the work of Walter Rodney and Yves Person and some of the findings of this schema.138

Rodney and Person, the scholars who have published most extensively concerning the Mani, arrive at similar conclusions concerning invasion routes and approximate dates: there were two invasions through Liberia and Sierra Leone, both around the middle of the sixteenth century (see Map #11 and Map #12).

Briefly recapitulated, an invading group speaking a Mande language(s) led by a woman named Macarico crossed Liberia in a south-southwest direction parallelling the St. Paul and St. John rivers.

Along the way they acquired as allies people speaking Kwa languages. When the combined Mani force arrived at or near the coast, it split into two groups. One group pillaged southwards and eastwards for an undetermined distance, possibly as far as modern-day Ghana. The other group, with the woman leader and including a number of smiths, advanced northwards to the area around Cape Mount, where it fought a major engagement against Bullom/Sherbro people. The woman's son was killed, and she died soon afterwards. Subsequently, commanded by male leaders, the Mani resumed their northwards invasion, eventually advancing as far as the Iles de Los. Bullom conquered en route were either incorporated into the Mani after being forced to consume human flesh, or were sold to Portuguese slavers.

Roughly contemporaneous with the foregoing, a second Mani force comprising only Mande speakers invaded northwestwards through Liberia and Sierra Leone, eventually reaching the foothills of Futa Jallon where it was defeated by Susu assisted by a small group of Fula horsemen.

Rodney and Person concur in identifying the Mande speakers as belonging to the Southwestern sub-group of Mande languages, which include Kpelle/Guerze, Loma/Toma, Gbandi, Gbundi, Mendi, and Loko. Those speaking Kwa languages likely included Kru, Bassa, and Dei. Person identifies the Mani leaders as members of the Kamara clan living in Konyan.

What was the impetus for the Mani invasions, and why at this particular time? Analysis based on the historical schema suggests that ecological and economic changes were significant factors. Mani forces followed long-established trade routes, and their leaders may

be credited with sensible short- and long-range objectives.

Prior to the Mani invasions, there was a long-standing trade in malaguetta pepper, kola, and salt from the Liberian forest zone north to the savanna and sahel zones, with some of the pepper and kola shipped across the Sahara. Traders and smiths speaking Mande dialects belonging to the Southwestern and Southeastern subgroups had lived in the savanna-woodland zone for centuries, but they had been kept from the coast by Kwa and West Atlantic speaking groups. The trading pattern (which continued down to the nineteenth century) was for Kwa speaking mariners to transport malaguetta pepper, kola, and salt along the coast and up the rivers to the head of navigation where, according to circumstances, other Kwa groups acted as middlemen or there was direct trade with Mande traders.139

Circumstances changed significantly during the three-quarters of a century preceding the Mani invasions. Beginning in the 1460s, Portuguese vessels purchased large quantities of malaguetta pepper and Africans dealing with them were able to raise their prices some 500-600 per cent between 1470 and 1505. Portuguese traders bartered pewter manillas, iron bars, cotton cloth, probably salt, and other commodities for the pepper. Thus European commerce greatly increased both demand and prices for malaguetta pepper, which must inevitably have disadvantaged African traders carrying pepper to inland markets. Moreover, Europeans purchased malaguetta pepper with the principal commodities brought from the interior to barter for pepper: cotton cloth and iron bars.140

Contributing to the problems of traders from the interior, the c1500-1630 wet period occasioned significant ecological changes in the

southern areas of the savanna-woodland zone, sufficient to diminish cotton growing and cloth production, and perhaps to cause smiths to move northwards to stay on the margins of the encroaching forest zone. The implications are that at the very time Portuguese traders were selling cotton cloth and iron bars along the Liberian coast and driving up the price of malaguetta pepper, the costs of producing and transporting cotton cloth and iron bars in the interior had become more expensive and less competitive.

Given the foregoing considerations, one may suppose that the Kwa speaking mariners who carried malaguetta pepper up Liberian rivers to rendevous with Mande speaking traders shared similar grievances vis-a-vis coastal groups engaged in commerce with Europeans. Such would explain why relations between Mande and Kwa speaking groups are described in sources as collaborative, not one of conquest and assimilation such as described for the Bullom groups defeated by Mani invaders. They were also complimentary: Mande were formidable fighters on land, but it was Kwa who possessed dugout craft and the maritime skills required for riverine and coastwise travel and raiding.

Respecting Kwa speakers associated with the Mani invasions, Dei and Bassa were living along the St. Paul and St. John rivers in the sixteenth century, and would seem the most likely groups associated with the Mani advance from the interior to the coast. Coastal groups of Dei, Bassa, and Kru presumably had kinship affiliations with the riverine groups.

Once arrived on the coast, the combined Mande-Kwa force raided both north and south, evidently incorporating Kwa speakers as they

advanced. Portuguese sources report that the Mani force which travelled south and eastwards pillaged as far as Elmina on the Gold Coast. Such is not implausible, for there is reason to suppose that malaguetta pepper and other commodities were previously traded eastwards along the Gulf of Guinea by relay commerce among Kwa speaking groups; thus, some of the Mani raiders would have been familiar with navigating in these waters.141

With respect to the Mani invasion northwards along the Liberian coast, it is noteworthy that the first recorded major battle was with Bullom living in a fortified town near Cape Mount; it was here that Macarico's son was killed. Bullom would have had good reason to make a stand in this area, for the territory between the Moa, Mano, and Loffa rivers is a major source of kola, and the Mano River marked the boundary of the West Atlantic and Kwa language groups, Bullom to the north and Dei to the south. Commerce in the area very likely had substantially increased with the arrival of the Vai sometime before 1500, their migration to the coast serving to rationalize and expedite what previously had been a relay commerce linking the Cape Mount area with markets along the upper Niger River. The fortified Bullom town was burned and taken by means of red-hot arrows prepared by smiths.142

The Mani halted around Cape Mount for a time following the battle and Macarico's subsequent death from old age and anguish over her son's death. Then the Mani under male leadership raided northwards along the Bullom and Luso-African coastwise trade route, conquering Bullom communities as far north as the Iles de Los. Bullom captives were incorporated into the Mani forces, or sold to Portuguese slavers whose vessels hovered offshore in Almada's memorable phrase, "like

birds of prey."143

During their invasion northwards along the coast of Sierra Leone, the Mani founded states that lasted for varying periods of time. These states controlled coastwise-interior trade links in commodities previously described: gold and iron bars brought from the interior, kola produced in the coastal forests of northern Sierra Leone and southern Guinea-Conakry, salt collected along the lower Kolente River, and the growing commerce in European products.

By contrast, the Mani invasion southwards along the Liberian coast seems to have had little long-term consequence. One reason may be that European trade dwindled during the seventeenth century, as the more pungent Piper nigrum from Asia supplanted malaguetta pepper in European markets. The sparsely inhabited Liberian coast subsequently offered few attractions for European slave vessels, which visited principally to obtain rice and other provisions. Kru carried on a relatively insignificant coastwise and riverine commerce and, as opportunities offered, commenced the practice of serving on European vessels as auxiliary seamen.144

The diminution of European trade in malaguetta pepper was paralleled by a decline in trade with the interior, beginning at an undetermined date but probably sometime during the seventeenth century. This was due to the introduction of American varieties of pepper (Capsicum annum and Capsicum frutescens). "Chillies" and "bird peppers" (so-called from seeds being widely distributed by birds) flourished in savanna areas, reducing the demand for malaguetta pepper (and related species) for most flavoring and medicinal purposes.145

Lastly, what may be inferred concerning the Mani invasion north-

westwards across the interior of Liberia and Sierra Leone that was halted in the outliers of Futa Jallon by a Susu army and a few Fula horsemen?

Rodney and Person call attention to a significant statement recorded by Almada — that he was told Mande speaking groups had been invading northern Sierra Leone for centuries. Why? Part of the answer is explained by the location of the Susu-ruled Bena state along the upper Kolente River. The adjoining area constituted one of the most important sources of kola along the Upper Guinea Coast, offered easy access to supplies of salt, and from the mid-fifteenth century attracted many Portuguese and Luso-African traders. Bena was strategically located both for trade routes linking the upper Niger network, and for trade through Futa Jallon linking the upper Senegal network.

Besides kola, one may speculate that malaguetta pepper was one of the principal commodities carried northwards from Bena through Futa Jallon. Pepper might reach Bena by two routes: by relay coastwise trade between Kwa speaking groups (i.e., Kru, Bassa, and Dei) and Bullom, a West Atlantic speaking group; alternatively, pepper might be transported overland by Mande speaking traders from the head of navigation of such rivers as the St. John, St. Paul, and Moa. The existence of such routes in Liberia — those in northwestern Liberia in approximately the same places as the arrows drawn on Rodney's and Person's maps — is recorded by George Harley in his surveys of Liberian roads and trails in the 1930s (Map #13).

Harley relates that the groups inhabiting the inland forests of Liberia preferred to dwell on the hills and they made straight trails

from community to community. Liberian trails did not follow streams, but crossed them at right angles. Rivers and streams were crossed on skillfully made bridges woven from vines by members of the Poro society and suspended by vine cables from the tops of trees on opposite banks. Harley remarks, "To judge from the deeply worn trails, now like ditches in places, from the great trees bordering them, and from the marks of bare feet worn into rocks at some of the stream crossings, these routes have changed little in hundreds of years." 146

Respecting the course of the Mani invasion across modern-day Sierra Leone, the most likely trade route followed would be that paralleled in later times by the railway connecting Pendembu with Freetown.

Rodney speculates that the Mani invasion through the interior of Sierra Leone accounts for Mendi and Loko settlement and for the spread of Poro. Concerning the first, drawing on the Almada quotation cited above, what seems more likely is that the Mani invasion reinforced groups speaking southwest Mande dialects which had been settling in Sierra Leone for a long time previous. Absorption of West Atlantic speaking groups by the Mani invaders and the coalescing of Mendi and Loko speaking groups in south-central and north-central Sierra Leone may have occurred over considerable time. P.E.H. Hair notes that "Mendi" was not known to Europeans until c1840.147

Rodney's speculation concerning the spread of Poro likewise seems well founded. Manuel Alvares, who reported on Sierra Leone in the early seventeenth century, considered Poro a Mani institution. Alvares reports that the Mani introduced improved methods of iron-working.

One of the principal xinas, or spirits, in Sierra Leone was called Mane Mane, and the spirit's favored offering was iron.148 Moreover, as previously noted, Person identifies the Mande speaking leaders of the Mani invasion as members of the Kamara clan from Konyan. The Kamara (Camara) clan is identified almost exclusively with smiths. Musadugu, the chief commercial center of Konyan, the entrepot for trade southwards into Liberia, reputedly was founded by the Kamara, and as previously discussed, smiths and traders are the two groups chiefly associated with Mande power associations, i.e., Komo, Poro, and Simo.

What is especially intriguing with respect to the issue of Mani-Poro links is the Mani practice of forcing Bullom captives to eat human flesh before incorporating them into their forces. Such a practice may be interpreted symbolically and literally: that Poro "eats" i.e., admits, initiates is frequently reported in the literature concerning Poro (and Simo); and the awesome ritual of consuming human flesh would have served the purpose of "de-programming" Bullom youths as a part of re-socialization process prior to inducting them into Mani ranks.

Evidence of Mani-Poro links of an entirely different sort, and "graphic" in another sense, are maps depicting the distribution of Poro prepared by Warren d'Azevedo and William Siegmann (Map #14 and Map #15). To an extraordinary degree, their maps "match" those of Rodney and Person depicting Mani invasion routes (Maps #11 and 12).149 The northern boundary of Poro territory depicted by d'Azevedo's and Siegmann's maps represents the southern boundary of Simo territory. Kola forests and trade routes to the north were controlled by the Simo

society.

African "Landlords" and Portuguese "Strangers"

The early part of the c1500-1630 wet period was characterized by ongoing accommodation between West Africans and Portuguese, followed by significant changes in commercial patterns from the latter part of the sixteenth century as growing numbers of Dutch, French, and English merchants became involved in West African trade. The most salient feature of African-European relations during this period is the unchallenged control that African "landlords" exercised over European "strangers." African ascendancy over Europeans derived from many factors, including Africans' insistence on applying long-established patterns of treating with stranger-traders, and from the relatively prosperous circumstances of the c1500-1630 wet period. African societies dealt with Europeans from comfortable circumstances on their own terms, in contrast to the times of drought and famine that prevailed during the c1630-1860 dry period following when societies were under considerable stress and the exacerbation of conflicts between groups benefitted European traders seeking captives.

Exceptions to these circumstances which "prove," or test, the latter generalization are the horse-owning stratified societies of Senegambia and the Guinea-Bissau region which bartered large numbers of captives for horses during the c1500-1630 wet period in the attempt to maintain cavalry forces decimated by the northward advance of the "tsetse fly line," and the predatory Mani raiding groups that sold captives to European traders as opportunity offered. By contrast,

acephalous societies the length of the coast offered few captives for sale, distaining to part with members of their own groups and generally refusing to sell people of neighboring societies. It was from the Jolof Empire and the Mandinka and Banyum states of Senegambia and the Guinea-Bissau region that Portuguese obtained the great majority of captives transported to the Cape Verde Islands for enslavement there, or for re-export to Portugal or Brazil.

During the c1500-1630 period West Africans profited from the opportunities provided by European traders to sell increasing quantities of agricultural commodities, sylvan products, and manufactures, besides gold, ivory, and animal pelts. Among the principal items of a growing commerce were malaguetta pepper, cowhides, cotton textiles, and beeswax, the latter a "new" commodity hitherto little traded among African groups. Numerous commodities likely had greatly augmented exchanges between African groups due to increased inter-regional African trade promoted by European commerce. These would include kola, salt, malaguetta pepper, and other condiments, iron bars, cloth, and many other consumer products.

Analysis of available documents and collected oral traditions shows that West African communities applied to Portuguese and other Europeans the same patterns of "landlord-stranger reciprocities" they had developed over the centuries to accommodate African traders, hunters, migrants, and other travellers. African host societies constrained Portuguese and other Europeans to adhere to African modes of barter commerce; to pay customs duties; to settle ashore and travel only where their hosts gave permission; and to submit disputes to African judicial processes, or palavers, as Portuguese came to call

them. Everywhere African groups denied Europeans (and, generally, Eur-Africans) access to trade routes linking the interior.150

In return, African landlords guaranteed the safety and security of European strangers' persons and property; assisted them in carrying on trade; and otherwise promoted their interests. It is noteworthy that venturesome Portuguese who settled in African communities to take advantage of landlord-stranger reciprocities were known as lançados, from the Portuguese se-lançar, which in the West African context may be translated as "casting one's lot" among African societies.

One of the most important privileges accorded resident strangers, African or European, was that of marrying local women, usually women related to rulers or other influential persons in a community who sought to derive additional advantages from kinship affiliation with strangers. Ignorant as they were of African ways, lançados found wives invaluable as interpreters of languages and cultures, and as collaborators in commercial exchanges. African women took advantage of these circumstances for their own benefit no less than that of male relatives, with the consequence that they came to exercise a crucial role as commercial intermediaries and culture-brokers between African societies and visiting European traders, which intermediary role could be similarly exploited by their Eur-African children, female and male both.151

By the close of the fifteenth century some lançados came to be termed tangomaos, which in Portuguese and Luso-African usage connoted "renegades" or "outcastes," individuals who had forsaken European ways. Tangomaos manifestly found it in their interests to integrate their lives with Africans even more closely than did lançados, for

they wore African dress and protective amulets, underwent circumcision and scarification, participated in African rituals, and otherwise adapted to African customs. The phenomenon of tangomaos has yet to be adequately studied, but the word would seem to drive from tangomaas, the Temne/Sapi name for the priestly lineage which was in charge of the shrines of an initiation society 152 -- probably the Simo society, which controlled the highly remunerative trade in kola harvested in the coastal forest belt of Guinea-Conakry. Seemingly Portuguese and Luso-African traders were admitted (one might say co-opted) into Biafada-Sapi trading groups for reasons of mutual advantage, a principal reason being their possession of caravels which could transport larger quantities of kola and other cargo than African almadias and make long coastwise voyages as far north as the Gambia River and Sine-Saloum estuary. From the beginning of the seventeenth century Luso-Africans, whether tangomaos or otherwise, progressively supplanted Biafada in coastwise commerce, as Biafada were plundered and enslaved by Bijago raiding expeditions incited by European slavers.

Some Portuguese and Luso-African accounts would seem to use tangomao and lancado interchangeably, and it would be surprising if matters were otherwise. For both lancados and tangomaos were integrated into African communities, relied on their hosts for security of their persons and property, and during frequent periods of illness their lives depended on the nursing of their African wives and treatment by African medical practitioners. They were, in brief, physically and psychologically dependent on Africans.

Denounced as interlopers in trading monopolies granted by the kings of Portugal, branded "outlaws" and worse, lancados and tangomaos

wrote little concerning their affairs, but some of the traders who visited West Africa recorded information that delineates some of their relationships with African hosts and trading associates. For example, Andre Alvares d'Almada, a Cape Verdean-born Luso-African who visited the Cacheu River in 1570, relates that Portuguese and Luso-Africans trading there insisted that commercial agreements be annually ratified by religious ceremonies that included the sacrifice of dogs and chickens and bound both parties to fulfillment of obligations on risk of punishment by irans, or spirits.153

Almada does not describe the religious ceremonies used to ratify commercial agreements, but very likely they were similar to that described by Valentim Fernandes for the Guinea-Bissau region more than a century-and-a-half previous. Fernandes does not relate that Portuguese traders participated in such a ritual nor would one expect his informant(s) to acknowledge such information.

> Banyun worship a stick of wood which they call hatschira, which they consecrate in the following manner. They take a forked stick of wood which must be cut with a new hatchet with a new handle — neither part having previously been used for any other purpose, and then they make a hole in the earth into which they pour a calabash of palm wine, some five or six liters, another with the same quantity of palm oil, and a basket of unhusked rice containing about one-fourth of an alqueire. They bring a live dog, and when they have poured the wine, oil, and rice into the hole, the kill the dog with the new hatchet, splitting open its head to let the blood flow into the hole onto the wine, oil, and rice. Then they cast the axe into the hole and implant the forked stick in the mixture, fill up the hole with earth, and hang herbs collected from the forest on the fork of the stick which extends above the ground. This ceremony is presided over by the most highly respected elders of the entire region, and afterwards they prepare the sacrificed dog with great solemnity and eat it.

> Thus consecrated the stick is believed to possess such powers that no one will touch it nor take anything put around it, for fear of dying forthwith. And when one wants someone to give surety that he will honor a contract, one takes him to the stick where he swears, and he will be very careful not to forswear because he believes that he will immediately die. They swear thus in their language: "hatschira hor no temrab," which means "may the china kill me descending from the palm tree," for all of them climb palm trees to tap wine. And they swear in other ways, saying "may the serpent kill me, or the crocodile, etc.," and women also swear invoking as witness the same hatschira.154

The Y-shaped religious symbol is previously mentioned in Part II with respect to "lyre-stones" marking burials in "stone circles" along the north bank of the Gambia River. As related, Papel, Diola, and other groups of the Guinea-Bissau region use Y-shaped stakes to commemorate the dead. Information is sparse concerning these practices, but it would seem that the forked stick represents the power of lightning.155

Some of the most informative reports concerning the activities of Portuguese and Luso-African traders along the Upper Guinea Coast and Senegambia were written by Fr. Balthasar Barreira, a Jesuit priest who travelled down the coast from Senegal to Sierra Leone in 1605 and lived in Sierra Leone until 1609. Respecting traders' religious practices, Fr. Barreira relates:

> Portuguese roam these parts like sheep without a shepherd, men turned wild whose way of life is more heathen than Christian, men who go many years without sacraments or mass, without hearing the word of God, even without remembering it.

And elsewhere in the same report:

> I wish to state here what often occurred to me, that although I had come to these parts with the sole aim of hearing the confessions of the Christians to be found here, my coming and the labours of the journey were put to especially good use,

> since the confessions covered ten or twenty years, or in quite a number of instances, over thirty years or even a whole life-time spent "in medio nationis pravae" ("in the midst of a people of unclean lips," Isaiah 6:5), where no difference can be perceived between the practices of the Christians and those of the heathen.156

In short, lancados and tangomaos alike lived African-style, enculturated by Africans, rather than the reverse.

Just as lancados and tangomaos lived amongst Africans and adapted to their ways, grumetes were African mariners who adopted some of the attributes of the Portuguese and Luso-Africans who hired them to navigate trading craft, perform ancillary skilled occupations such as boat-building and repair, and to serve as compradors at trading establishments. Grumetes came from maritime groups associated with the Biafada-Sapi and Banyun-Bak trade networks, principally it seems from Biafada, Papel, and Niominka communities.

Grumetes shared a number of "Luso-African" social and cultural attributes, which are discussed in the section following. Perhaps their most significant contribution during the early contact period was their role in the development and spread of Crioulo, or "Black Portuguese," a language combining elements from Portuguese and West Atlantic languages (principally), which rapidly became established as a lingua-franca for coastwise and riverine trading groups of Senegambia and the Upper Guinea Coast and became the language of the inhabitants of the Cape Verde Islands.

If Africans and Portuguese early established mutually advantageous relationships with respect to expediting coastwise and riverine commerce, such was not the case with respect to overland trade routes; these were jealously guarded by Banyun and Mandinka traders. Mandinka

living along the Gambia and Casamance rivers and at the head of navigation of the Cacheu and Geba Rivers welcomed Portuguese and Luso-Africans to visit or reside in their communities, but denied them access to caravan routes linking the interior. The Banyun states controlling trade routes between the lower reaches of the Cacheu and Gambia Rivers enforced the same policy until the close of the sixteenth century when their ongoing conflict with the Mandinka-ruled Casa state and other circumstances caused them to open their commercial networks to trade and travel by Portuguese and Luso-Africans -- privileges they and other African groups living in the Guinea-Bissau region progressively curtailed during the eighteenth century.

Wherever Portuguese or other Europeans attempted to assert their independence of African landlords, the latter quickly re-established their ascendancy. One of the most notable instances occurred at Cacheu at the close of the sixteenth century. In 1589, on the pretext of constructing a fortified stockade to defend themselves and the Papel community against French and English raiders, Portuguese and Luso-Africans living at Cacheu built a stronghold and when it was completed barricaded themselves inside. The Papel response to the deception was decisive: they forced open the stronghold, exacted payment in retribution, and otherwise reestablished their prerogatives as landlords. A parallel initiative during the same period by Portuguese and Luso-Africans trading with Guinala along the Grande River was similarly frustrated by Biafada landlords.157

The Cape Verde Islands-Guinea nexus

From the time of the archipelago's settlement in the 1460s, the

inhabitants of the Cape Verde Islands developed increasingly important commercial, social, and cultural ties with lancados and with African societies of Senegambia and the Upper Guinea coast.158 Traders based in the archipelago carried on an increasing proportion of Portuguese commerce with western Africa. Two of the largest islands, Sao Tiago and Fogo, were found to have sufficient rainfall to support plantation agriculture; consequently, captives were brought from West Africa to cultivate sugar, cotton, and indigo, and to herd livestock on these and other islands where mountainous terrain or sparse rainfall precluded the cultivation of export crops.

Cape Verde-born Portuguese and, increasingly, Cape Verde-born Luso-Africans soon became more numerous than peninsula Portuguese as lancados living in Senegambia and along the Upper Guinea Coast. Individuals born in the archipelago acquired immunities and resistance to malaria, dysenteries, and other diseases endemic in West Africa. Not less advantageous, they learned Crioulo, the language of the islands and which together with Mandinka expedited the commerce of Senegambia and the Upper Guinea Coast from the sixteenth century onwards. Cape Verdeans likewise acquired invaluable knowledge of West African languages, social institutions, and cultural practices from parents and relatives, and from captives brought to the archipelago in an almost uninterrupted flow for use in the Islands and for resale and shipment to the Americas.

During the last decades of the fifteenth century the rapid expansion of Cape Verdean commerce in association with lancados and tangomaos living in Senegambia and along the Upper Guinea Coast occasioned numerous complaints from Portuguese merchants who had acquired

royal commercial monopolies for different parts of West Africa. As a consequence, the monarchy promulgated a series of decrees restricting the activities of Cape Verdeans and West African-based traders. These laws proved unenforceable, but the regulations with their draconian punishments for law-breakers long remained on the books, inhibiting knowledgeable persons from reporting about commercial matters and much else besides.

Cape Verdean commerce with Senegambia and the Guinea-Bissau region continued and probably increased steadily during the sixteenth century. The principal commodities traded included salt, horses, tobacco, aguardente, and other agricultural products. Portuguese sources record little concerning this ongoing clandestine commerce, and it is not until Dutch mariners systematically collected intelligence on West African trade around the turn of the seventeenth century that the nature and extent of Cape Verdean commercial networks may be appreciated. In 1623, the Dutch shipmaster Dierich Ruiters explained how Cape Verdeans carried on a thriving commerce "out of nothing."

> The trade we called 'coastal' is mostly undertaken, in small ships, pinnaces and launches, by Portuguese who live on Santiago Island. First they load these with salt, which they conveniently obtain for nothing on the islands of Maio and Sal [in the Cape Verde Islands] and they sail to Serra-Lioa with the salt and trade it for gold, ivory and kola. Then from Serra-Lioa they sail again to Joala and Porto d'Ale [along the Petite-Cote in Senegal], where they trade a portion of the kola for cotton cloths. They also sometimes trade ivory obtained in Serra-Lioa for Cape Verde cloths (so called because many are made at Cape Verde). From there they sail again east to Cacheo where they trade the rest of their kola and their remaining goods for slaves. They acquire fifty to sixty slaves in exchange for the goods they have obtained by trade along the coast, and each slave is worth to them 150 <u>reals</u>,

> or pieces-of-eight. So they make 9,000-10,000 *reals* out of nothing, in a matter of speaking.159

During the seventeenth century when Senegambia was ravaged by sporadic droughts and the long term consequences of the c1630-1860 dry period, cotton cloth (*panos*) produced in the Cape Verde Islands by captive African weavers supplanted Senegalese manufactures as the principal textiles traded in coastwise commerce. Panos, plus aguardente and tobacco were the staples of Cape Verdean trade with western Africa until the nineteenth century.

French, English, and Dutch competition in Senegambia and along the Upper Guinea coast from the 1580s had the consequence of reinforcing commercial, social, and cultural links between the Cape Verde Islands and the Guinea-Bissau region. By the close of the seventeenth century these rivals had largely restricted Portuguese and Cape Verdeans to a trading sphere extending from the Casamance to the Grande rivers. Portuguese and Luso-Africans living in this region continued, however, to carry on relay trade northwards to the Gambia and southwards to the Nunez and Pongo rivers.

Social and Cultural Developments

The arrival of Portuguese and other Europeans introduced new social and cultural elements which the societies of western Africa responded to in various ways. Some innovations, such as new plants and animals, were readily adopted. Some, such as many patterns of European behavior, were ignored, or rejected outright. There were many examples of syncretism, ranging from the development of the *pirogue* to religious beliefs and practices adopted by Luso-Africans

and members of neighboring African societies.

The most significant — and readily identifiable — new social element was the appearance of Eur-Africans, men and women of mixed African and European descent who came to exercise an increasingly important role as economic, social, and cultural intermediaries.

Luso-Africans, the first hyphenated group to appear, represented a new and unprecedented element in West African societies. In social and cultural terms, Luso-Africans were much more "African" than "Portuguese," hence the short prefix "Luso-" (and "Eur-" for Eur-African) serves to communicate the proportinately much smaller European cultural heritage of individuals raised by African or Luso-African mothers in African milieus.

Growing up in African cultures and possessing some knowledge of European ways, more or less depending on circumstances, Luso-Africans possessed unique potential to function as commercial and cultural intermediaries. Nonetheless, their opportunities and range of possibilities must have been largely determined by the status and privileges accorded by their mothers' societies: to what extent they inherited their mothers' social ranking, rights to land use, and other prerogatives. Available evidence suggests that there were significant differences with respect to stratified and acephalous societies.

One element common to both stratified and acephalous societies was that African hosts maintained control over land use vis-a-vis 'strangers', whether they were Africans or Europeans. Walter Rodney perceptively observes that African societies would not rent to Portuguese (or other Europeans) more land than was required for dwellings and stores. Denial of land for cultivation rendered them dependent on

Africans for food supplies, a factor of no small consequence whenever there were disputes to resolve.160

A second element common to both stratified and acephalous societies was the practice of landlords to arrange marriages with African or European traders so as to exploit the commercial advantages they might derive from marital and kinship affiliations, attempting at the same time to hold to a minimum strangers' reciprocal demands on them. It is evident that elites in stratified societies could maintain more effective control over strangers — and their descendants — than was possible in acephalous societies.

Insofar as generalizations can be made on the basis of available genealogical evidence, stratified societies with patrilineal or bilateral descent systems, e.g., the Mandinka, Wolof, and Serer states of Senegambia, systematically excluded Europeans and Eur-Africans from access to marriage partners who might have provided them or their descendants with claims to leadership positions. There is no recorded instance of a European or a Eur-African man or woman attaining positions of power in any of these political systems. Moreover, it would seem that Eur-Africans were not accorded the same privileges concerning land use as others and were discriminated against as marriage partners. Such deprivations and marginal social status would have provided strong incentives for Eur-African men and women to congregate with their fellows and with European traders engaged in commerce.

Circumstances were different in acephalous societies and those with weak stratification having matrilineal descent patterns, such as Banyun, Papel, Biafada, and Sapi groups. Elders and community leaders encouraged European and Eur-African traders to marry members of their

families and kin groups. Once admitted to acephalous societies, strangers seemingly exercised greater privileges than was the case in stratified societies, and their offspring evidently shared the same rights and privileges as other children. Eur-African children might follow the same life patterns as their African peers, intermarry with them, and "disappear" into their societies.161

For whatever reasons, many Luso-Africans born into both stratified and acephalous societies became involved in commerce in a variety of capacities. While Luso-African males seem to have functioned equally well as traders and grumetes in both stratified and acephalous societies, Luso-African women exercised different roles according to the type of social order. In acephalous societies Luso-African women were partners in commerce with Portuguese or Lus-African husbands or engaged in trade on their own behalf, while in stratified societies their role was limited to that of translators and intermediaries on behalf of male elites and male traders.

Whether the foregoing patterns date from the beginnings of Portuguese trade with western Africa, or developed gradually over time is uncertain, given the paucity of European sources for the fifteenth century and for the first three-quarters of the sixteenth century. But from the close of the sixteenth century onwards, Portuguese, French, and English sources record considerable information concerning Luso-Africans living in Senegambia and the Guinea-Bissau region.

Europeans trading with stratified societies in Senegambia make reference to Eur-African women only as intermediaries and translators, never as independent traders. Unfortunately for historians, references to such women are limited to their first names or sobriquets

only, as "Marie Mar" and "Belinguere", with little or no information concerning their families or social antecedents. This pattern of women acting as commercial intermediaries developed into the institution of 'signareship' in Senegal.

By contrast, Luso-African women and African women living in acephalous societies in the Guinea-Bissau region and southwards along the Upper Guinea Coast acted as partners in commerce with Portuguese and Luso-African husbands, and as important traders in their own right. Many exercised leadership roles in their communities, and some ruled their own trading settlements. There are numeros reports from the seventeenth century onwards concerning such influential women, including Bibiana Vaz, a Luso-African who built up an extensive trading empire between the Gambia and Sierra Leone rivers in the 1670s and 1680s and who held captive the commandant of Cacheu for fourteen months in 1684-1685.

Luso-Africans living in both stratified and acephalous societies were readily identifiable from Africans by the way they dressed and by what may be termed a "Luso-African lifestyle" which combined Portuguese and African elements. Luso-Africans wore European-style clothing and crucifixes, which conspicuous attributes made them readily identifiable at first sight. They spoke Crioulo, for many their "first" language. They possessed Portuguese family names and first names, and asserted that they were "whites." They lived in distinctive rectangular shaped dwellings which they furnished with European articles. They used and disseminated imported European, American, and Asian plants, trees, and domestic animals, e.g., pigs and citrus trees from Portugal, pineapples and peanuts from South America, and mangoes

and padi rice from South Asia, and their diet and cuisine comprised both African and imported foods, condiments, and cooking styles.

For all that they claimed to be "whites" and "Christians," the evidence is that until the nineteenth century Luso-Africans seldom attended mass, sanctified their marriages to fellow Luso-Africans or to Africans, or received other sacraments. Such seems to have been the case both for the larger Luso-African communities which had chapels and resident priests such as Bissau, Cacheu, and Ziguinchor, and for smaller settlements along the Gambia River and in the rivers along the Upper Guinea Coast which were sporadically visited by priests from the Cape Verde Islands. Only during the nineteenth century, as they came to be increasingly set apart and "encapsulated" by Africans did Luso-Africans respond to new missionary initiatives and, concomitantly, closer identification with Cape Verdeans and Portuguese.

For earlier periods one may wonder why Luso-Africans did not identify themselves as members of their mothers' societies, inasmuch as they were often as dark-skinned as Africans, spoke African languages fluently, were frequently married to Africans, and were dependent on Africans for their personal safety and security of their possessions. Clearly it must have been advantageous, perhaps even necessary in some instances, for them to assert "European" and "Christian" identities instead of African identities.

Several considerations suggest why Luso-African traders behaved as they did. Their costume of European clothing and Christian crosses advertised their occupational role as "stranger-traders," an identification which afforded them a distinctive and prestigious status and protection for themselves, their retinues, and their possessions.

Rulers accorded special privileges to traders of whatever ethnic group or religion, i.e., traditional, Muslim, or Christian, in order to stimulate commerce and increase customs revenues. And Africans of whatever status generally accorded traders and certain other groups safe passage and hospitality. Like hunters, bards, diviners, and marabouts (Muslim clerics), traders were readily identifiable by their costumes and accoutrements and were rarely molested. By contrast, strangers without credentials, such as escaped slaves, individuals made "displaced persons" by warfare or natural disaster, people with no professional identities or kin living in an area to vouch for them, would have travelled the same routes in some peril.

More speculatively, and a hypothesis for further investigation, is that stratified societies generally, and Mandinka dwelling along the Gambia River in particular, came to treat Luso-Africans (and Eur-Africans generally) as an endogamous occupational group analogous to blacksmiths, leatherworkers, and bards. It is noteworthy, too, that in Senegambia during the same period — seventeenth to nineteenth centuries — Muslim communities became increasingly segregated, and self-segregated, in African societies. The social processes which African societies developed, or borrowed, to "set-off" endogamous occupational groups and Muslim communities have yet to be adequately studied; and while it is uncertain to what extent the segregation of Luso-Africans may constitute an analogy, there is considerable historical documentation concerning them and other Eur-African groups available for analysis.

Other than family and kin, Portuguese and Luso-Africans had their closest relationships with grumetes and domestic slaves. Both groups

shared with Portuguese and Luso-Africans the day-to-day activities of the trading communities, learned Crioulo, and adopted many Portuguese and Luso-African practices and customs.

From the seventeenth century, if not earlier, there were grumete communities in all the principal trading settlements of the Senegambia and Upper Guinea Coast, but disappointingly little information is recorded in European sources concerning them. It is uncertain, for example, whether the men in such communities were long-term inhabitants, or whether there were regular patterns of labor migration. Likewise, did grumetes bring women from their own villages, or did they take wives from local communities? To what extent did young women from grumete communities become wives of Portuguese and Luso-Africans, and what became of their children? It would be interesting to know how grumetes "presented themselves" to the African societies they travelled among, inasmuch as they spoke Crioulo, possessed European garments, and shared other attributes of Luso-Africans. One may speculate that when it was advantageous to do so, grumetes "advertised" themselves as Luso-Africans or identified themselves with Luso-African or Portuguese employers, and similarly used their African credentials when it best served their interests.

Many of the same questions are outstanding regarding domestic slaves, which Portuguese and Luso-Africans used for a variety of trade-related and household tasks. Men were often selected because they were skilled smiths, woodworkers, or weavers, or were trained in these and other skills. It would seem that some slaves, and more generally their children (the latter not infrequently fathered by their masters), were granted their freedom and were absorbed into the Luso-

African and grumete communities. Unfortunately, there is little documentary evidence concerning such matters, and research is made the more difficult from the circumstance that both grumetes and slaves were given, or adopted, Portuguese first names and often acquired their masters' surnames as well.

A major technological innovation of the c1500-1630 period, the development of the pirogue, may be attributed to slaves trained in Portuguese boat-building methods, to grumetes similarly trained, or perhaps most likely. to persons belonging to both groups.

The word pirogue is derived from piragua, a Galibi word from Brazil, and in West African usage refers to a composite craft incorporating African and European maritime traditions. The lower part of the hull comprises a single hollowed-out log, to which is added planked sides strengthened by cross pieces, a mast and sail, and wave breakers fore and aft to make the craft more seaworthy in ocean swells. A small pirogue is maneuvered with a paddle by a mariner sitting in the rear of the craft. Large pirogues, some of which are capable of carrying tons of cargo, are steered by means of European-type rudders.

When and in what circumstances the pirogue developed is not known, but somewhere along the Petite-Cote seems the most likely place of origin and ongoing refinement. Besides Niominka, Lebou and Bak mariners frequented the area, and during the sixteenth century there were a number of Luso-African trading communities located there.

Besides research on the development and diffusion of the pirogue, there is need for systematic investigation of the construction, repair, and use of Portuguese caravels and other types of European

vessels and small craft. From the sixteenth century, there were a number of communities building and repairing ships in Senegambia and along the Upper Guinea Coast, from which diffused European construction techniques, tools, and navigational skills.162

Portuguese and Luso-African social and cultural exchanges with African traders, rulers, and other elements of society have yet to be systematically studied. Inasmuch as Portuguese and Luso-Africans were constrained to adhere to Arrican patterns of hospitality, they perforce entertained as guests, African traders and rulers and their entourages, as well as members of their families and hangers-on. Some might stay for extended periods of time, and perhaps demand that their children or those of relatives might reside as wards. At different times and seasons, Luso-Africans and Portuguese may have had hunters, fishermen, medical specialists, oracles, and other visitors residing in their compounds or staying with dependents in the trading community. At present one can only speculate concerning what cultural exchanges and syncretistic developments occurred and in what circumstances.163

V. WESTERN AFRICA c1630-1860

AN ERA OF DROUGHTS, FAMINES, WARFARE, AND SLAVING

During the c1630-1860 dry period diminished rainfall combined with overgrazing and improvident cultivation practices contributed to environmental degredation and social dislocation in the sahel, savana, and savanna-woodland zones. Sporadic widespread droughts causing famine conditions added to the human misery and contributed to social unrest and inter-group conflict that provided captives in increasing numbers for the trans-Saharan and Atlantic slave trades.

Fortuitously, the c1630-1860 dry period coincided with rapidly growing European demand for captive labor on American plantations, while estimates for the trans-Saharan slave trade indicate significantly increased volume as well. Tragically for millions of people in western Africa, the "pull" of European and North African demand coincided with the "push" of worsening economic and social circumstances in many parts of western Africa.

The c1630-1860 dry period also represented an era of Fula ascendency, inasmuch as Fula warrior groups associated with Torodbe clerics espousing militant Islam achieved notable successes across the sahel, savanna, and savanna-woodland zones. Fula almamates, i.e., states founded on Islamic principles, included Bundu (1690s), Futa Jallon (1720s), Futa Toro (1770s), and the empire created by Al-Hadj Umar in the wake of the jihad he initiated in 1852. Many Fula sucesses were at the expense of Mande speaking cultivators, indicating that the progressive desiccation and ecological degredation of western Africa was advantageous for pastoralists vis-a-vis cultivators.

The last part of the c1630-1860 dry period marked the transition from slave to "legitimate" trade, i.e., non-slave commerce; or rather, a symbiosis between the two trades. With the gradual suppression of the slave trade, Africa labor remained in western Africa, and African groups in coastal and riverine areas progressively became associated with timber-cutting, collecting palm oil, and growing peanuts and other crops for export. Many Africans involved in these activities were domestic slaves, and internal and coastwise trade routes transported captive labor to supply the demands of "legitimate" commerce. There was also a significant development of free labor migration, notably Africans from eastern Senegal, western Mali, and the Guinea-Bissau region attracted to the peanut growing regions of Senegambia.

Slave and legitimate commerce provided expanding employment for Kru, Lebou, Papel, and other seafaring groups on European and Eur-African trading vessels and at coastal and riverine trading establishments. Luso-Africans, Franco-Africans, Anglo-Africans, Krio, and Americo-Liberians were involved in commerce as merchants, traders, compradors, shipmasters, and seamen, all of which roles expanded greatly during the nineteenth century.

Climate and Ecology

Around 1630 there began a long dry period which extended until c1860. The renewed desiccation of western Africa, compounded by overgrazing and deleterious farming practices, contributed to environmental degredation and human deprivation. Rainfall diminished

and was unpredictable; there were periods of severe drought and famine conditions interspersed by periods of relatively abundant rainfall. The effects of drought conditions likely were exacerbated by population increase among cultivators and pastoralists (and their herds of domestic animals) during the preceding wet period.

There was drought and famine in Senegambia and around the Niger bend during the 1640s, several years of drought around the Niger bend towards 1670, and drought conditions in Senegambia in the 1670s. During drought conditions in the 1680s people sold themselves into slavery to avoid death by famine — and Europeans were informed that conditions during the 1640s had been even worse. There were droughts in Senegambia in each decade from the 1710s, to the 1750s, in the 1770s and 1980s, and frequent periods of famine during the period from 1790 to 1840.164 Many periods of drought and food shortages doubtless went unrecorded by African and European chroniclers. Human misery and social dislocation resulting from such conditions contributed to the phenomenal growth of the Atlantic slave trade during this period, likewise increased numbers of captives crossing the Sahara.

The ongoing desiccation of western Africa compelled southward migration of Fula herders, who in many areas became increasingly interspersed with Mande speaking cultivators. The southward movement of the "tsetse fly line" promoted the expansion of cavalry warfare across vast areas of western Africa, as had been the case during the c1100-1500 dry period. During the first part of the c1630-1860 dry period, Mandekalu comprised the ascendant horse warrior groups engaged in raiding and slaving, but as the period wore on Fula military forces came increasingly to dominate the savanna and savanna-woodland zones,

as Fula military leaders and marabouts combined forces.

In contrast to pastoralists, cultivators generally did not migrate. As discussed in Part IV, linguistic evidence suggests that western African coastal and riverine groups have not significantly changed locations during the past 500 years, which indicates that most cultivators remained where they were when the dry period began, whether from choice or because they were prevented from crossing the territories of other groups. Seemingly, the only possible opportunity for southward migration for agricultural groups was in areas along the receding borderlands of the lightly inhabited forest zone.

Incursions along the forest borderlands in northern Sierra Leone are described by Michael Jackson, who has reconstructed the process of Maninka conquest and settlement of Kissi and Loma/Toma territories during the seventeenth, eighteenth and nineteenth centuries.

> The Kuranko live in a zone where the Sudanese savannah encroaches upon the forest belt of the West Atlantic coast. Migrating from the former regions into the latter, the Kuranko have steadily deforested large areas through slash and burn farming. Although there are few areas which are completely treeless, successive and sometimes uncontrolled burning has reduced vast tracts of country to sparse orchard bush (dominated by Lophira scrub) and grassland (dominated by elephant grass).165

The grasslands were occupied in turn by Fula herders. Likely developments similar to these occurred all along the receding borderlands of the forest zone during the c1630-1860 dry period.

Developments in Futa-Jallon provide a notable case-study of the interaction of ecological degredation and social conflict. The ongoing deforestation of the massif by smiths and cultivators became increasingly destructive during the c1630-1860 dry period, as climate

desiccation slowed the growth of vegetation. Moreover, land clearing opened the way to stock-rearing, and what had probably been only a trickle of Fula and ndama cattle during the c1500-1630 wet period now became a flood as Fula herders fled the arid pasturelands north of the massif. Competition for land between cultivators and herders occasioned numerous disputes during the last part of the seventeenth century, culminating in open warfare and the founding of a Fula almamate during the 1720s. Fula military expansion in Futa Jallon, in areas neighboring the massif, and elsewhere in western Africa continued during the remainder of the dry period, and afterwards.

Not until the decade of the 1860s did rainfall increase across western Africa, and then only for a relatively short span of years. The brief wet period ended around 1900, after which precipitation declined significantly, causing a severe sahelian drought by 1913.166

Commerce and State-Building

During the c1630-1860 dry period slaving affected the lives of virtually all the people of western Africa, directly or indirectly. Besides the millions of people sold into trans-Saharan and trans-Atlantic slavery, or reduced to servile status as domestic slaves in western Africa, countless others were affected by losses of family and kin, by the destruction of their homes, crops, and domestic animals, and by living in times of terror and uncertainty that precluded having normal lives or being able to plan for the future. The social and cultural effects of these circumstances have yet to be adequately investigated by scholars.

Droughts, Famines, and Slaving While there was no connection between

the onset of the c1630-1860 dry period and the rapid development of plantation agriculture in the Americas, the coincidence had disastrous consequences for western African societies. To the "pull" of European demand for captives there was added the "push" of droughts, famines, and deteriorating economic, social, and political circumstances in many parts of western Africa, the consequences of which made African groups more willing than otherwise to sell war captives, domestic slaves, criminals, and social deviants, however defined.

The incidence of recorded drought and famine conditions is remarked on in the previous section, likewise that many periods went unrecorded by African and European chroniclers. Doubtless much more information concerning drought and famine conditions will be collected and analyzed in coming years.

Where information is available, the consequences of such disasters can be described. Philip Curtin relates what happened in northern Senegal during the 1750s when famine conditions were exacerbated by epidemic disease and locust swarms.

> It is not yet possible to trace the full ramifications of this disaster for Senegambian societies, but the crisis itself is clear from the records of the Europeans on the coast. It began with three inadequate rainy seasons in 1746, 1747, and 1748. The year 1749 brought a normal harvest along the lower Senegal, but grain reserves were not yet replenished by 1750, when the rains were again insufficient on the lower river. The famine could be relieved in part by importing grain from the upper Senegal, which had a normal harvest in 1750, but now even the Gambia was brought into the disaster area by swarms of desert locusts, which remained a danger here and there in the region during most of the next decade, with an especially severe attack on Waalo in 1758. Harvests in Wolof country were again bad in 1751 and terrible in 1752, so that people began to slaughter and eat their reserves of cattle. Slaves held in Saint-Louis

> awaiting shipment began to die of malnutrition. Then, in 1753, water was more than plentiful; the Senegal flooded half of Saint-Louis and washed away part of the curtain wall from the fort at Maxaana, but the floodwater came from distant rainfall upriver. By 1754 many people on the jeeri land in Kajor and Jolof were so close to starvation they streamed north to the river banks where food could still be grown on the waalo land in Waalo and Fuuta. Many were simply enslaved by the Futankoobe and Waalo-Waalo, who sold them to the French at Saint-Louis. The Compagnie des Indes that year shipped more slaves than it had ever done before, though slaves and traders at entrepot had to be kept alive with food imported from France. In 1755, the harvest was again sufficient for current needs in the northern Wolof country, though reserves continued dangerously low. Saint-Louis was especially hard hit when the British blockade began in 1757. The French commander finally drove some five hundred slaves out of the fort to fend for themselves, rather than let them die of starvation in captivity. Even after the British captured the island in May 1758 and the rains came again, desert locusts prolonged the famine. By the end of the year, the British themselves were forced to send a ship off to the Cape Verde Islands in hope of buying provisions that were unavailable on the mainland. After that, the worst was over, but the natural catastrophe must have been far more serious across the whole northern belt of savanna than the European records could possibly indicate.167

The growth of the Atlantic and trans-Saharan slave trades during the c1630-1860 dry period correlates with the human misery and social breakdown caused by drought, famine, and chronic warfare afflicting western Africa. Compilation of Atlantic slave trade statistics relating to western African remains to be done, but generally it seems that there was a southward progression of slave trading during the eighteenth century, with more captives shipped from Senegambia and the Guinea-Bissau region during the first part of the century, and afterwards more from Guinea-Conakry and the southern part of the Upper Guinea Coast.168 Many of the latter presumably were captives taken in

the wars associated with the founding and expansion of the Fula almamate in Futa Jallon.

Information concerning the slave trade across the Sahara is likewise difficult to interpret with respect to captives taken from western Africa, but the overall estimates indicate that significantly higher numbers of captives crossed the Sahara during the c1630-1860 dry period than any previous periods, with the greatest volume during the first three-quarters of the nineteenth century.169

Some of the consequences of increased African involvement in slaving are evident from changing landlord-stranger relationships. Where formerly Europeans traded on the suffrance of landlords, by the seventeenth century Europeans had acquired a growing number of allies in African societies which shared mutual interests with respect to prosecuting the slave trade. These included Eur-Africans, who served as trading intermediaries in both stratified and acephalous societies, and elites and warrior groups who had come to depend on exchanging captives for munitions, consumer goods, tobacco, and spirits. Regarding the latter, it is evident that some rulers and their entourages may be considered "addicted" to slaving, for their cravings for spirits, tobacco, and other imported luxuries at times caused them to raid and enslave members of their own societies as the speediest and most convenient means of satisfying their compulsions. Evidence is widespread that besides warfare, slave-raiding, manstealing, and kidnapping of children, the demand for captives contributed to the corruption of social practices associated with the treatment of criminals, debtors, "sorcerers," and others. Many of these latter were condemned to slavery.

A consequence and a contributing factor to the social disruption of slave raiding and slave trading during the c1630-1860 period was that rulers of stratified states relied increasingly on warriors of slave origins. Termed tyeddo in Senegambia and nyancho in the Kaabu Empire, these groups became increasingly difficult to control, and they were feared and hated by non-elites whom they pillaged and enslaved. Their predatory and amoral behavior plagued western African societies long after the suppression of the Atlantic slave trade. Martin Klein explains:

> In order to make war more effectively, the kings of Senegambia gathered around themselves bands of slave warriors. Increasingly, these slave warriors became a hereditary elite. They were the agents of the state power and they received most of the profits of the trade. French observers in the nineteenth-century often did not distinguish between the chiefly lineages and the warriors who were in theory its instruments. All were tyeddo. This perception seems to reflect the degree to which the state power was captive to this elite. The values and the life style of this elite reflected their manner of living. They drank heavily, fought often and wore bright and elegant robes. In contrast to this group, Moslem religious leaders (Marabouts) gathered around themselves an austere, hard-working and puritanical peasant population. Thus, though the marabouts originally became important through their services to the kings, they increasingly became the leaders of a counter-culture which rejected the drinking and the hedonistic values of the dominant elite. With the end of the slave trade, the tyeddo had little outlet for their aggressive tendencies and no way of getting the revenues to support their expensive tastes except the agricultural labor they despised. Increasingly, they imposed themselves on the more industrious peasants. This stimulated the risings that became increasingly important in the 1860s. Behind the religious conflicts was a social conflict between an elite shaped by the slave trade and one oriented to agricultural labor and legitimate commerce.170

From the mid-nineteenth century onwards until the imposition of

colonial rule, Senegambia and the Guinea-Bissau region was torn by strife as marabouts and their adherents clashed with traditional rulers and their followers.

Africans in acephalous societies in the coastal-riverine areas along the Upper Guinea Coast likewise lived in dangerous circumstances during the c1630-1860 period. The principal centers of slave trading along the Upper Guinea Coast, such as the Cacheu, Geba, Nunez, and Pongo rivers and the Galinhas country, were the arenas of cooperation and competition between rulers and coteries of notables; Eur-Africans with whom they shared close kinship and commercial ties; and visiting Cape Verdean, Portuguese, Luso-African, French, Franco-African; British, Anglo-African, and "stranger" African traders engaged in slave trade and, from the beginning of the nineteenth century, in legitimate commerce. One consequence was numerous marriages between Eur-Africans and Africans which created a web of family and commercial networks from Saint-Louis southwards the length of the Upper Guinea Coast.171

Transition to Legitimate Commerce

The suppression of the slave trade and the expansion of legitimate commerce are extensively treated in numerous studies. Discussion following is limited to a few issues of special concern in this study.

One generally overlooked consequence of the suppression of the slave trade is the devestating effect the auctioning of captured slave vessels had on ship building in western Africa's seafaring communities. Numerous sources attest to thriving ship building and ship repair facilities at Saint-Louis, Goree, Bathurst, Bissau, and other

ports during the eighteenth and early nineteenth centuries, but construction of new vessels evidently diminished following the establishment of the Courts of Mixed Commission at Freetown to adjudicate captured slavers.

Numerous slave vessels were sold for low prices at public auctions, frequently to agents for slave traders. Often the vessels were new or in excellent condition, thereby undermining the market for western Africa's ship builders and reducing incentives to repair older vessels. Sales of condemned slavers continued until 1835, after which vessels were broken-up and sunk in Destruction Bay.172 To what extent business at ship building centers afterwards revived remains to be studied.

There are a number of issues concerning the commercialization of agricultural and sylvan commodities that deserve systematic study with respect to climate and ecological factors. Timber cutting during the nineteenth century when climate desiccation inhibited the growth of new trees is one such example. Besides possible changes in land use and other ecological consequences of unrestricted timber cutting, there may have been less obvious consequences with respect to the distribution of tree species, other flora and fauna, and the spread of trypanosomiasis, malaria, and other diseases in modified habitats.

Yet to be investigated systematically are the possible interrelationships between climate factors and the commercialization of palm oil, peanuts, coffee, and other sylvan and agricultural commodities. It is noteworthy, for example, that during the 1830s and 1840s the growth of peanuts for export rapidly spread southwards as far as the Kolente River in Sierra Leone, but not farther south into

higher rainfall areas.173 Circumstances changed with the end of the c1630-1860 dry period, and from the 1870s peanuts ceased to be exported in significant quantities south of the Casamance River. Statistics on peanut exports from the Rivieres du Sud/Guinea-Conakry area are unavailable for previous decades, but those compiled for the period from the 1860s onwards show a dramatic decline from the mid-1870s: a range of 8,000 to 12,000 tons from 1867 to 1875; incomplete statistics for 1876 to 1883; c3,000 tons in 1884; and from 1885 to 1900, exports never attained more than c2,000 tons (1890) and dropped as low as c21 tons (1887).174

Various factors can be attributed to the decline in peanut exports, e.g., lower prices offered and the profits of rubber exports as an alternative involvement for traders, but the principal factor would seem to be that increased rainfall in the area diminished both the productivity and quality of peanut crops. A French administrator noted that mold in the wet, clayey soils of Guinea-Conakry had such a degenerating effect on peanuts that new seeds had to be imported every two or three years.175

The Rise of Fula Almamates

The founding of the Fula almamates that came to control much of western Africa may be attributed to the potent combination of two principal elements: the growth of Fula military capabilities, notably in horse cavalry warfare versus Mande elites; and the unifying leadership achieved by militant Torodbe clerisy over dispersed Fula groups.

Torodbe (sing. Torodo) were individuals who subordinated ethnic

and social ties to their commitment to Islam. Many were slaves, or descendants of slaves, drawn from numerous groups in western Africa. J.R. Willis characterizes Torodbe:

> Turudiyya was a way of life pursued by any believer willing to...embrace a sedentary existence which espoused the cultivation of Islamic learning.... Torodbe Muslims transcended ethnic barriers and in so doing came closest of all Sudani Muslims to the realization of the Muhammadan ideal. Among them, the brotherhood of Islam took predecedence over bonds of kinship; despite their disperion throughout the Western Sudan, the common oppression which they met with forced the different kinds of Torodbe back to the one thread that bound them.176

If discounting ethnic and kinship ties was the Torodbe's principal focus of unity and strength it was also their (and other marabouts') chief weakness, for ruling elites (especially proud Mandinka mansas) regarded themselves as the inheritors and custodians of ancestral traditions and distained to recognize their petensions or submit to their leadership, spiritual and temporal.177

A fundamental goal of Torodbe and other Muslim clerics was to create centralized Muslim states ruled by Islamic law where they could implement pervasive changes requisite to "purify" the practice of Islam in western Africa. In pursuit of this goal Muslim reformers experienced many failures, but from the second half of the seventeenth century they began to achieve successes.

For the Torodbe, the first major victory was achieved by Malick Sy, a Tukulor marabout, who attained power in Bundu in the 1690s. Malick Sy's success in Bundu was preceded by the failure to overthrow the Fula Denankoobe dynasty of Fuuta Tooro, which goal was not achieved until 1776. Malick Sy made Bundu a sanctuary for Muslim refugees, most of whom were Fula and Tukulor. Bundu expanded

eastwards, annexing territory in Bambuk previously controlled by Mande speaking groups — a pattern of Torodbe-led Fula supplanting Mande elites that was to continue in much of western Africa up to the time of the colonial take-over.178

Torodbe clerics played a notable role in the Fula conquest of Futa Jallon. Many of the Fula herders who entered the massif during the seventeenth and early eighteenth century were Muslims, or were to some extent influence by Islamic teachings and practices. Moreover, they were accompanied by Torodbe who actively proselytized both recent migrants and (less successfully) Fula pastoralists long settled in the massif.179

The growth both of human population and the number of livestock living in Futa Jallon combined with climate desiccation to accelerate degredation of the environment. Improvident slash-and-burn methods of cultivation, erosion, overgrazing, and twice annual burning-off of pasturelands transformed more and more of the land of the highlands to infertile laterite crust (bowal) almost bare of soil or vegetation. Concomitantly, competition for remaining lands exacerbated frictions between Susu landlords and Fula strangers, especially with the more assertive recent immigrants.

The social tensions and growing enmities between landlords and strangers were skillfully exploited by militant Torodbe marabouts who forged alliances between Muslim Fula and members of the Mande speaking trading community and some of the cultivators. During the 1720s a Torodbe-led jihad succeeded in gaining control over the highlands surrounding Labe and Timbo. With the founding of the almamate, Futa Jallon became the lodestar for Muslims all over western Africa and a

base of operations for new initiatives elsewhere.

Labe and Timbo became famous as centers of Islamic scholarship, attracting renowned marabouts and their students. The successful Muslim revolution in Futa Toro in 1776 was led by a Torodo who had studied in Futa Jallon, Abdoul Kader. Another successful Torodo leader was Ahmadu Seku, who led Fula against Bamana in the Massina area and founded his capital at Hamdallahi ("Praise God") along the Bani tributary of the Niger around 1810. Al Hadj Umar, a Torodo from Futa Toro, launched his jihad from Futa Jallon in 1852.

During the eighteenth and nineteenth centuries the armies of the Fula almamate annexed the entire massif and expanded Fula suzerainty over neighboring areas. Non-Muslim Susu and Fula who refused to convert to Islam were conquered, and many were enslaved, either confined to slave communities to grow food for their masters, or sold into the Atlantic slave trade.

Many Susu speakers fled southwards to the coastal region of Guinea-Conakry (where they are called "Susu"), while others (the "Jallonke" or "Yalunka") settled in the eastern ranges of the massif along the borderlands of Guinea-Conakry and Sierra Leone. Those Muslim Susu and traders from other Mande groups who remained in the almamate suffered liabilities, for the almamate's system of state-controlled caravan traffic was administered to the advantage of Fula elites.

Some non-Muslim Fula migrated northwestwards into the Guinea-Bissau region, joining others who had arrived from the north. Ongoing climate desiccation made the area of the Kaabu Empire increasingly suited to pastoralism, and Mandinka landlords found it to their

advantage to entrust cattle to the care of Fula herders. Landlord-stranger relations became increasingly strained during the long conflict between Kaabu and the Fula almamate, which began in the 1780s(?) and continued until Kaabu's destruction in the 1860s. During the strife Fula living in the Kaabu Empire came increasingly to be regarded as a "fifth column" by Mandinka, a threat that Mandinka did much to increase by extortionary taxation and arbitrary and cruel treatment of defenseless Fula herders. The latter came increasingly to seek redress by assisting the raiding parties dispatched from the Futa Jallon almamate.180

Growing population of both humans and domestic animals, together with the deteriorating soils of the massif, must be accounted a significant factors contributing to the almamate's expansion policy almost from the time of its inception.181 Another impetus to expansion was to secure dependable trading outlets. Expansion during the first two-thirds of the nineteenth century was spearheaded by Labe, the most powerful <u>dival</u> (province). Fula came to exercise suzerainty over Susu along the Pongo River, Nalu and Landuma along the Nunez River, Landuma along the Corubal River and the Kade area, and progressively over Mandinka living in the Guinea-Bissau region.

By the middle of the nineteenth century Kaabu was rent by internecine conflicts and Fula controlled much of the territory of the Guinea-Bissau region. A measure of the Fula triumph, and of Fula control over the savanna and savanna-woodland zones, is that in 1865 during the final battle for Kaabu's capital, Kansala, the remaining Mandinka warrior elites fought dismounted from behind defensive positions.182

In September 1852, during the final stages of the Fula almamate's conquest of Kaabu, Al Hadj Umar launched a jihad northwards from Futa Jallon directed mainly against Bamana and other Mande speaking groups. By the time of his death in 1864, his forces had conquered a vast area of savanna-land comprising much of the upper Niger and upper Senegal river valleys.183

Fula migrations inter-penetrating Mande speaking groups east and south of Futa Jallon have been little studied, likewise the extent to which Torodbe gained influence among such groups. Numerous Fula settled in the Wassalou area during the seventeenth and eighteenth centuries, many intermarrying with Bamana.184

That the Futa Jallon almamate may have exercised a widening suzerainty southeastwards across the savanna-woodland zone that protected Fula herders, traders, and other travellers is suggested by Benjamin Anderson's report that in December 1868 four Muslim Tukulor(?) with two donkeys loaded with imported French cloth had travelled from the upper Senegal River through Futa Jallon to Musadougou. The trading expedition suggests, too, how far south the savanna-woodland zone had receded by the close of the c1630-1860 dry period, so that donkeys might safely convey trade goods during the dry season when the risk of infection by tsetse flies would be least dangerous.185

FOOTNOTES

1. The area and groups covered correspond with H. Baumann's West Atlantic and Upper Niger "cercles de civilisation," part of a remarkable synthesis which has been unfortunately neglected in recent scholarship. H. Baumann and D. Westermann, Les Peuples et les civilisations de l'Afrique (Paris, 1962), 367-402.

2. Map #1 is based on Map #5 of Stanley P. Jackson, Director, Commission for Technical Co-Operation in Africa South of the Sahara, Joint Project No. I: Climatological Atlas of Africa (CCTA/CSA, Lagos-Nairobi, 1961). NOTE: the absence of 200 meter elevations in the eastern part of the map is due to an unavoidable change in material. Regrettably, too, the xerox process used to copy the original map did not clearly differentiate between the shadings of the 500 and 1,000 meter elevations.

3. The discussion of ecological zones following is derived from many sources, most notably R.J. Harrison Church, West Africa: A Study of the Environment and of Man's Use of It (London, 7th ed., 1974), and Jacques Richard-Molard, Afrique Occidentale Francaise (Paris, 1956).

4. Provisional dating of the wet and dry periods prior to c700 A.D. is derived from Figure #1 published in Susan Keech McIntosh and Roderick J. McIntosh, "West African Prehistory," American Scientist, 69 (Nov.-Dec. 1981), 604; and after c700 A.D. from Sharon E. Nicholson, "The Methodology of Historical Climate Reconstruction and its Application to Africa," JAH, 20, 1 (1979), 47. For a masterful review of scholarship concerning climate patterns and other issues discussed in this study, S.K. McIntosh and R.J. McIntosh, "Current Directions in West African Prehistory," Annual Review of Anthropology, 12(1983), 215-258.

5. Personal communication, Charles S. Bird, January 26, 1983.

6. Donald R. Wright, "Thoughts on the Nature of Precolonial Mandinka Polity and Society, Gambia-Guinea-Bissau," (Unpublished paper, 1981 African Studies Association convention), 10. Wright's views are cogently argued in "Beyond Migration and Conquest: Oral Traditions and Mandinka Ethnicity in Senegambia," History in Africa 12 (1985), 335-348.

7. Warren L. d'Azevedo, "Tribe and Chiefdom on the Windward Coast," Rural Africana, 15 (Summer 1971), 18.

8. For locations of these (and other) language groups, Joseph H. Greenberg, The Languages of Africa (Bloomington, 1963), maps A and B and the Index of Languages.

9. David Dalby, "The Place of Africa and Afro-America in the History of the English Language," African Language Review, 9 (1970/71), 285.

10. Brooks, "Kola Trade and State-Building: Upper Guinea Coast and Senegambia, 15th-17th Centuries," Boston University African Studies Center Working Papers, No. 38 (1980), 2-4 and passim. An unresolved question concerning kola production is when and where kola trees came to be safeguarded for commercial purposes. Planting kola in suitable locations where shade is afforded by larger trees and other aboricultural techniques significantly improve the productivity of trees and the quality of seeds.

11. For the foregoing see relevant sections of J.M. Dalziel, The Useful Plants of West Tropical Africa (London, 1948), an excellent compendium of botanic information and local African names.

12. Raymond Mauny, Tableau geographique de l'ouest Africain au moyen age (Dakar, 1961), Figure 58, page 295, depicts West African gold deposits.

13. See discussion in Candice L. Goucher, "Iron is iron 'til is rust: Trade and Ecology in the Decline of West African Iron-Smelting," JAH, 22, 2 (1981), 179-189.

14. Roderick J. McIntosh and Susan Keech McIntosh, "The Inland Niger Delta before the Empire of Mali: Evidence from Jenne-Jeno," JAH, 22, 1(1981), 10-21 and "Finding West Africa's Oldest City," National Geographic, 162, 3 (Sept. 1982), 396-418. Who the founders of Jenne-jeno (and other riverine communities) were remains to be established, but Bozo fishing groups are acknowledged '"owners of the earth and the water,"' though they became politically subject to the Nono, a Soninke group, during the twelfth century A.D.. Nehemia Levtzion, "The Early States of the Western Sudan to 1500," in J.F.A. Ajayi, and Michael Crowder, History of West Africa (London, 2nd. ed., 1976), I, 133.

15. For discussion, McIntosh and McIntosh, "Current Directions," 238-239 and Roland Porteres, "Berceau agricoles primaires sur le continent Africain," JAH, 3, 2(1962), 197-198.

16. There are numerous vestiges of ancient communities along the Senegal River, but the earliest C-14 dates obtained so far are of the sixth and seventh centuries A.D.. D. Calvocoressi and Nicholas David, "A New Survey of Radiocarbon and Thermoluminescence Dates for West Africa," JAH, 20, 1 (1979), 14. For Akjoujt, Nicole Lambert, "Les Industries sur cuivre dans l'ouest saharien," West African Journal of Archaeology, I, (1971), 9-12.

17. Richard Bulliet, The Camel and the Wheel (Cambridge, Mass., 1975), Chapter 5.

18. Timothy F. Garrard, "Myth and Metrology: The Early Trans-Saharan Gold Trade," JAH, 23, 4(1982), 447.

19. J.E.G. Sutton, "Archaeology in West Africa: A Review of Recent Work and a Further List of Radiocarbon Dates," JAH, 23, 3 (1982), 296.

20. Zebu cattle were introduced into Egypt from western Asia during the second millennium B.C. and subsequently were introduced into West Africa by routes and during time periods yet to be determined. G.P. Murdock associates the introduction of Zebu with the adoption by Fula (and some groups in Eastern Africa) of an independent mode of pastoral life, "nowhere much earlier than A.D. 1000." Walter Deshler suggests a period "about the time of the Muslim invasion in the seventh century." However, there would seem no reason to exclude sometime earlier during the latter part of the c300 A.D. to 700 A.D. period, given the increasingly moist conditions in the Sahara previously described. See H. Epstein, The Origin of the Domestic Animals of Africa (Leipzig, 2 vols., 1971), I, 201-207; 554-556; II, 382-390; George Peter Murdock, Africa: Its Peoples and their Culture History (New York, 1959), 20-21; and Walter Deshler, "Cattle in Africa: Distribution, Types, and Problems," Geographical Review, LIII, 1 (Jan. 1963), 57-58.

21. Calvocoressi and David, "Radiocarbon and Thermoluminescence Dates," 14.

22. Garrard, "Myth and Metrology," 448-449.

23. Al-Fazari writing in Baghdad prior to 800 A.D. first described Ghana as the "land of gold." Nehemia Levtzion, Ancient Ghana and Mali (London, 1973), 3. Scholars have generally identified Bambuk as the principal source of the gold Ghana and Takrur exported across the Sahara, but Susan Keech McIntosh argues for the Lobi deposits along the Black Volta River in "A Reconsideration of Wangara/Palolus, Island of Gold," JAH, 22, 2 (1981), 145-158. The climate patterns and arguments presented in this schema suggest otherwise, as the Lobi gold fields would have been deep in the savanna-woodland zone during the c300-700 A.D. period and remote from the caravan routes adduced for this time.

24. Porteres, "Berceaux agricoles primaires," 197-198, distinguishes a primary area of rice cultivation in the interior Niger delta and derived areas in Senegambia and along the northern outliers of Futa Jallon.

25. Sutton, "Archaeology in West Africa," 304-305; Patrick J. Munson, "Archaeology and the Prehistoric Origins of the Ghana Empire," JAH, 21, 4 (1980), 457-466; and J. Spencer Trimingham, A History of Islam in West Africa (London, 1962), 47-50.

26. Trimingham, History of Islam, 26:45; Levtzion, "Early States," 130.

27. J.F.P. Hopkins and N. Levtzion, eds., Corpus of Early Arabic Sources for West African History (Cambridge, 1981), 76-77.

28. Ibid., 77-79; 456. The surpassing importance of salt in inter-regional commerce is delineated by E. Ann McDougall, "The Sahara Reconsidered: Pastoralism, Politics, and Salt from the Ninth through the Twelfth Centuries," African Economic History, 12 (1983), 266-267

and 274-277. McDougall, 285, note 54, emphasizes the value of rock salt mined in slabs at Awlil and elsewhere in the Sahara: "Sea salts produced by solar evaporation and boiling along the coast did not travel or keep well; consequently, only a very small amount was to be found in the markets of the interior and this was considered inferior to many other kinds."

29. Ibid., 78-79.

30. Levtzion, Ghana and Mali, 29-35; Trimingham, History of Islam, 28-29; 45-46.

31. Al-Idrisi who wrote in 1154, cited in Levtzion, Ghana and Mali, 44.

32. See Levtzion, Ghana and Mali, chapters 2-4, and E.W. Bovill, The Golden Trade of the Moors (London, 2nd. ed., 1968), chapters 7-8. Concerning ecological factors, see Bovill, 70-71, for an evocative description of Awdaghost at the height of its prosperity in the second half of the eleventh century when the savanna zone extended far to the north; the passage begins, "Water was abundant...." E. Ann McDougall, "The View from Awdaghust: War, Trade, and Social Change in the Southwestern Sahara, from the Eighth to the Fifteenth Century," JAH, 26, 1 (1985), 15, identifies the significance of disease regarding Almoravid expeditions. Recent research indicates that drought conditions caused the abandonment of Awdaghost by the end of the fourteenth century and that it was not resettled until two centuries later, i.e., during the c1500-1630 wet period. Ibid., 10.

33. For depictions of lithic materials and a valuable map of the Kade area, Dr. E. T. Hamy, "Note sur un gisement de labradorites taillees decouvert par le Dr. Maclaud," Anthropologie, XVI (1905), 625-628. For Kade as a nexus of caravan routes, see Map #8 derived from Croquis No. 1 facing page 8 of J. Machat, Guinee francaise, les rivieres du sud et le fouta-diallon (Paris, 1906).

34. Marion Johnson, "Cloth Strips and History," West African Journal of Archaeology, 7 (1977), 169-178.

35. G. Thilmans, C. Descamps, and B. Khayat, Protohistoire du Senegal; Recherches archeologiques, Tome I: Les sites megalithiques (Dakar, 1980), 151.

36. Dalziel, Useful Plants, 246-248.

37. Richard Roberts, "Women's Work and Women's Property: Household Social Relations in the Maraka Textile Industry of the Nineteenth Century," Comparative Studies in Society and History, 26, 2(1984), 234-235.

38. Philip D. Curtin, Economic Change in Precolonial Africa: Senegambia in the Era of the Slave Trade (Madison, 1975), 67-69, and map page 70.

39. Hopkins and Levtzion, Arabic Sources, 296. Ibn Battuta visited Mali in 1352-1353.

40. J.B. Gaby, Relation de la Nigritie (Paris, 1689), translated in J.D. Hargreaves, ed., France and West Africa: An Anthology of Historical Documents (London, 1969), 33.

41. Hopkins and Levtzion, Arabic Sources, 78-79. Speculatively, the "trellis" may be a forked stake such as those associated with graves of ancestors in western Africa; see discussion following concerning Senegambian "stone circles," "lyre stones," and forked Y-shaped stakes.

42. Patrick R. McNaughton, Secret Sculptures of Komo: Art and Power in Bamana (Bambara) Initiation Associations (Philadelphia, 1979), and see his forthcoming The Mande Blacksmiths (Bloomington, 1984). I am greatly indebted to Patrick McNaughton and Charles Bird for numerous informative discussions concerning smiths and their relations with other elements of Mande society.

43. J. David Sapir, "West Atlantic: An Inventory of the Languages, their Noun Class Systems and Consonant Alteration," Current Trends in Linguistics, 7 (1971), 45-112; and J. L. Doneux, "Les Liens historiques entre les langues du Senegal," Realities Africaines et Langue Francaise, 7 (1978), 6-55.

44. For general locations, Greenberg, Languages of Africa, Map A and Index. Incomparably the best linguistic map for groups from Senegal to the Sherbro area of Sierra Leone is J. Richard-Molard, Cartes ethno-demographiques de l'Ouest Africain, Feuille No. 1 (Dakar, 1952).

45. For locations of Diola groups, J. David Sapir, A Grammar of Diola-Fogny (Cambridge, 1965), map facing page 1.

46. William S. Simmons, Eyes of the Night: Witchcraft among a Senegalese People (Boston, 1971), 11ff.

47. Winifred F. Galloway, "A History of Wuli from the Thirteenth to the Nineteenth Century," (Ph.D. diss., Indiana University, 1975), 39-42 and map on page 331a. Inasmuch as bards did not accompany the early Mandinka traders and only arrived afterwards along with Mandinka rulers and warrior elites, it is an unresolved question as to when Banyun settled the area.

48. For the discussion following, Calvocoressi and David, "Radiocarbon and Thermoluminescence Dates," 13-14; 27-28; J.E.G. Sutton, "Archaeology in West Africa," 304; 311; V. Martin and Ch. Becker, "Vestiges protohistoriques et occupation humaine au Senegal," (1974; roneote multigraphiee with an addendum in 1978(?)); Thilmans, Descamps, and Khayat, Protohistoire du Senegal;" McIntosh and McIntosh, "Current Directions," 247-248; and Merrick Posnansky, "Complex Societies, Megaliths and the Early State in West Africa," The Quarterly Review of Archaeology (June 1982), 14-15.

49. This is remarked-on by Mauny, Tableau geographique, 167. See photographs in Antonio Carreira, Vida social dos Manjacos (Bissau, 1947), opposite p. 64 and p. 80; and Monique Gessain, "Femmes Coniagui" in Monique Gessain et. alii, Femmes d'Afrique noire (Paris, 1960), plate 4 (opp. p. 49).

50. David P. Gamble, The Wolof of Senegambia (London, 1967), 93-103, remarks how Lebou and Niominka are set apart from Wolof and Serer by their maritime way of life; see also Gamble's remarks pp. 14-15 concerning the confusing mix of social and cultural patterns among Senegambian groups. For Bijago, see A. Teixeira da Mota, "Actividade maritima dos Bijagos nos seculos xvi e xvii," in Memorias Antonio Jorge Dias (Lisboa, 1974), III, 243-277.

51. P.E.H. Hair, "An Ethnolinguistic Inventory of the Upper Guinea Coast before 1700," African Language Review, 6 (1967), 50-51; and "Ethnolinguistic Continuity on the Guinea Coast," JAH, 8, 2 (1967), 253-256. Hair, "Ethnolinguistic Continuity," 253, concurs with other scholars that "Sapi" is derived from Tyapi/Chapi, a Landuma group. The role that Landuma exercised as traders linking ecological zones suggests the likelihood that Portuguese employed Landuma as interpreters and compradors in commerce south of the Nunez River, thereby contributing to the dissemination of their dialect of "Sapi" as a lingua franca.

52. Greenberg, Languages of Africa, 8, and Map A, Map B, and Index; Charles S. Bird, "The Development of Mandekan (Manding): A Study of the Role of Extra-Linguistic Factors in Linguistic Change," in David Dalby, ed., Language and History in Africa (London, 1970); and The Dialects of Mandekan (Bloomington, 1982).

53. Murdock, Africa, 64-71, focused attention on what he designated the "Sudanic complex" of cultivated plants. Murdock's speculations concerning plants first domesticated around the headwaters of the Niger River stimulated lively and ongoing discussion among specialists.

54. Concerning Taghaza and Sahara salt trade, Mauny, Tableau geographique, 328; and Levtzion, Ghana and Mali, 171-172.

55. Paul Guebhard, "Notes sur l'elevage au Fouta et en Guinee francaise," Revue Coloniale, No. 74 (1909), 257 and ff.

56. Curtin, Senegambia, 17-19, discusses cultivation of floodlands (called waalo) along the Senegal River. Curtin notes with respect to Fula speaking groups that Tukulor is derived from a word that means "sedentary," thereby distinguishing cultivators from herding groups.

57. Olga F. Linares, "From Tidal Swamp to Inland Valley: On the Social Organization of Wet Rice Cultivation among the Diola of Senegal," Africa, 51, 2 (1981), 558-561; and Joseph Jerome Lauer, "Rice in the History of the Lower Gambia-Geba Area" (M.A. thesis,

University of Wisconsin, 1969). By the fifteenth century, if not earlier, rice cultivating Serer groups living along the Saloum River responded to increased desiccation by producing salt by solar evaporation in rice fields that had become too saline for cultivation. The salt produced in this manner has a distinctive reddish color, which was noted by early Portuguese visitors who observed Niominka mariners trading it along the Gambia River. Diogo Gomes, De la premiere decouverte de la Guinee, ed. and trans. by Th. Monod, R. Mauny, and G. Duval (Bissau, 1959), 42 and note 73.

58. The reconstruction of trade networks in the Guinea-Bissau region and Senegambia derives from Brooks, "Kola Trade," 15ff. Besides the sources cited, Winifred F. Galloway, "A Working Map of Kaabu," (paper and map presented to the Colloque International sur les traditions orales du Gabou convened at Dakar, Senegal, May 19-24, 1980), is an invaluable compendium of family names and place names derived from collected oral traditions.

59. The foregoing derives principally from B.K. Sidibe, "A Brief History of Kaabu and Fuladu, 1300-1930: A Narrative Based on Some Oral Traditions of the Senegambia" (Gambia Cultural Archives, unpublished manuscript, 1974), 2-7; and Donald R. Wright, The Early History of Niumi: Settlement and Foundations of a Mandinka State on the Gambia River (Athens, 1977), Chapter I.

60. For an account of such a campaign related by the bard Fa-Digi Sisoko, John William Johnson, The Epic of Son-Jara (Sunjata): An Analytical Study of a West African Tradition (forthcoming), 283-288. One may speculate that Fa-Digi Sisoko obtained the material from Senegambian bards(?). D.T. Niane, Sundiata: An Epic of Old Mali (London, trans. by G.D. Pickett, 1965), makes no mention of these matters. A moot question is when bards first began accompanying warriors on campaigns to chronicle their achievements and at the same time earn reputations for themselves (see discussion in section following); Tiramang's activities, including those of other war leaders whose activities are subsumed under his name(?), may predate the "heroic age" when bards became attached to elite families and sons of bards and elites were comrades from childhood.

61. Sidibe, "Kaabu and Fuladu," 7-15; and Sekene Mody Cissoko, "Introduction a l'histoire des mandingues de l'ouest," and "De l'organisation politique du Kabou," both in Ethiopiques, 28 (October 1981), 73-91; and 195-206.

62. Goucher, "Iron is iron," 181-183. Smiths sought the few species of hardwoods which had high alkali and silica contents and a suitable granular structure. For preliminary findings regarding the ecological impact of iron-smelting to the northwards, Randi Haland, "Man's Role in the Changing Habitat of Mema during the Old Kingdom of Ghana," Norwegian Archaeological Review, 13. 1(1980), 31-46. Concerning potters' firewood demands, Marion Johnson, personal communication, October 23, 1981. Fula penetration and conquest of Futa Jallon is discussed in Part V.

63. Identification of other possible trade and artisanal centers during the c1100-1500 period awaits analysis of oral traditions and future archaeological investigations. Likely sites for such communities include Kedougou on the upper Gambia River, Tabon on the upper Bafing River, Dinguiray on the Tinkisso River; Kouroussa on the upper Niger River, and Kankan on the upper Milo River. All would seem promising sites for traders and smiths during the c1100-1500 dry period when their locations were in the savanna-woodland zone (see Map #3).

64. Brooks, "Kola Trade," 28-29; Cotfinieres de Nordeck, "Voyage au pays des Bagas et du Rio Nunez," Tour du Monde, 51 (1886), 275.

65. A. Teixeira da Mota, Guine Portuguesa (Lisboa, 2 vols, 1954), I, 130-133. Teixeira da Mota reckons that the Geba deposits were exploited during the thirteenth or fourteenth century. For Bambuk mining techniques, Curtin, Senegambia, 202-203. Oral traditions cited following relate that Bambuk's productivity was in decline during the c1100-1500 dry period, which would have encouraged groups of smiths to prospect areas to the southwards. There are many gold deposits of variable significance in western Africa; see Figure 58 in Mauny, Tableau geographique, 295.

66. Niane, Sundiata, 48; 50; 77.

67. Compare maps in Machat, Guinee francaise, Croquis No. 1 facing page 8, and P.K. Mitchell, "Trade Routes of the Early Sierra Leone Protectorate," S.L. Studies, N.S. No. 16 (June 1962), 207. For the method of obtaining salt from salt-impregnated soils along the delta of the Kolente River, R.R. Glanville, "Salt and the Salt Industry or the Northern Province," S.L. Studies, O.S. No. 16 (August, 1930), 53-55.

68. Valentim Fernandes, Description de la Cote Occidentale d'Afrique, translated and edited by Th. Monod, A. Teixeira da Mota, et R. Mauny (Bissau, 1951), 100-105. Alvaro Velho disguises where he observed the shrine, an exmample of Portuguese "disinformation" discussed in Brooks, "Kola Trade," 2 and passim.

69. Andre Alvares d'Almada, "Tratado breve dos rios de Guine do Cabo Verde," in Padre Antonio Brasio, ed., Monumenta Missionaria Africana: Africa Ocidental (1570-1600), Second Series, III (Lisboa, 1964), 362; the passage is translated in Christopher Fyfe, ed., Sierra Leone Inheritance (London, 1964), 45. Fernandes, Description, 76-77, and Duarte Pacheco Pereira, Esmeraldo de Situ Orbis, translated and edited by George H. T. Kimble (Hakluyt Society, 1937; reprt. 1967), 94, mention trade in gold along the Upper Guinea Coast south of the Grande River.

70. Niane, Sundiata, 42.

71. Federick Lamp, African Art of the West Atlantic Coast (N.Y., 1979), 4; and M. McCulloch, The Peoples of Sierra Leone Protectorate (London, 1950), 75. McCulloch characterizes Krim a "branch" of

Bullom/Sherbro.

72. For the foregoing see Brooks, "Kola Trade," 4; Svend E. Holsoe, "The Manding in Western Liberia: An Overview," Liberian Studies Journal, VII, 1 (1976-1977), 1-2, and "Economic Activities in the Liberian Area: The Pre-European Period to 1900," in Vernon R. Dorjahn and Barry L. Isaac, eds., Essays on the Economic Anthropology of Liberia and Sierra Leone (Philadelphia, 1979), 63-66; Adam Jones, "Who Were the Vai?", JAH, 22, 2 (1981), 159-178; and P.E.H. Hair, "Ethnolinguistic Inventory of the Lower Guinea coast before 1700: Part I," African Language Review, 7 (1968), 65-66, note 42. Unsurpassed for an informative discussion of inter-related issues is Warren L. d'Azevedo, "Some Historical Problems in the Delineation of a Central West Atlantic Region," Annals of the New York Academy of Sciences, 96 (1962), 512-538.

73. For discussion of possible pre-European coastwise commerce along the Gulf of Guinea, Brooks, The Kru Mariner in the Nineteenth Century (Newark, 1972), 105-107.

74. John H. Atherton, "Early Economies of Sierra Leone and Liberia: Archaeological and Historical Reflections," 32-33 in Dorjahn and Isaac, eds., Economic Anthropology of Liberia and Sierra Leone; Susan L. White, "Iron Production and Iron Trade in Northern and Central Liberia: History of a Major Indigenous Technology," (unpublishd paper, Fifth Annual Liberian Studies Conference, 1974); and Andre Donelha, Descricao da Serra Leoa e dos rios de Guine do Cabo Verde (1625), Portuguese text, introduction, notes, and appendices by Avelino Teixeira da Mota, notes and English translation by P.E.H. Hair (Lisboa, 1977), note 113, pages 236-237.

75. Mauny, Tableau geographique, map page 295, and estimates of gold production in the area on pages 300-301.

76. Charles S. Bird remarks that in present-day Mali, Soninke compounds are readily distinguishable from those of other language groups from horses being kept inside, and Soninke children grow-up learning horsemanship as a matter-of-course. Personal communication, November 19, 1981.

77. L.J.B. Berenger-Feraud, Recueil de contes populaires de la Senegambie (Paris, 1885), 185 and 190.

78. Levtzion, Ghana and Mali, 56-58, and see map on page x of Niane, Sundiata. Note that Sundiata, descendant of Namadi-Kani and the acclaimed Mandekalu hero, had Soninke origins. For discussion of Sundiata's several names and genealogical matters, Johnson, Epic of Son-Jara, 290-291. Sundiata's father belonged to the Konate clan, but he is considered the founder of the Keyta clan.

79. Curtin, Senegambia, 7-8.

80. Boubacar Barry, "La Chronologie dans la tradition orale du Waalo; essai d'intepretation," in Rapports (Bucarest, 1980), 521.

81. The foregoing traditions are discussed in Chapter I of an Indiana University dissertation-in-progress authored by Bonnie L. Wright, to whom I am indebted for the privilege of advance reading and for stimulating discussion. There would seem a "parallel" between Njajan Njai's aquatic lifestyle and magical powers commanding subordination and those of Bida, the serpent-founder of the Soninke-ruled state of Ghana. African specialists who recount oral traditions tend to focus on singular events and the achievements of renowned personages in lieu of explaining gradual historical processes over long periods of time. See Miller's insightful essay in Joseph C. Miller, ed., The African Past Speaks (Folkestone, 1980), 1-59.

82. Boubacar Barry, "Economic Anthropology of Precolonial Senegambia from the Fifteenth through the Nineteenth Centuries," in Lucie Gallistel Colvin, ed., The Uprooted of the Western Sahel (N.Y., 1981), 30-32.

83. Robin Law, The Horse in West African History (Oxford, 1980), 11;48-53.

84. Levtzion, Ghana and Mali, 42-52.

85. Humphrey J. Fisher, "Early Arabic Sources and the Almoravid Conquest of Ghana," JAH, 23, 4 (1982), 549-560, and see David Conrad and Humphrey Fisher, "The Conquest that Never Was: Ghana and the Almoravids, 1076. I. The External Arabic Sources," History in Africa 9 (1982), 20-59; II. "The Local Oral Sources," History in Africa 10 (1983), 53-78.

86. Levtzion, Ghana and Mali, 228, note 51.

87. Maurice Delafosse, Haut-Senegal-Niger (Paris, 3 vols., 1911), II, 170 and map opposite. Note that the territory controlled by the Sosso Empire depicted on Delafosse's map extends far north into the Sahara.

88. James S. Thayer, personal communication, April 7, 1982. Endre Nyerges was similarly informed by Susu informants in northern Sierra Leone that "susu" is the Susu word for "horse," but could obtain no conclusive information concerning the word's derivation. Personal communication, April 19, 1985.

89. Law, Horse in West African History, 7-9; 90-93. For an informative discussion of issues related to horse keeping, training, an use in warfare, see Rosemary Harris' review of Law's book in Africa, 52, 1 (1982), 81-85.

90. Niane, Sundiata, 38; 92, note 47; and map page x. Levtzion, Ghana and Mali, 51, identifies Soso as "a southern group of the Soninke,..who lived in Kaniaga north of Beledugu. The first dynasty that ruled over the Soso is recorded in the legends as Diariso." Note the "Dia" theme. Johnson, Epic of Son-Jara, provides the first linear English translation of a text of the epic from the Mande heartland.

91. Miller, African Past Speaks, 7; 13ff.

92. Niane, Sundiata, 47ff. and map on page x.

93. Ibid., 73-81.

94. G. Dieterlen and Y. Cisse, Les Fondements de la societe d'initiation du komo," (Paris, 1972), 15-17.

95. S. M. Cissoko, "La royaute (mansaya) chex les Mandingues occidentaux," BIFAN, XXXI, 2 (Avril 1969), 325-338; Niane, Sundiata, 22-23.

96. Levtzion, Ghana and Mali, 181-182 for kola. See page 62 for trade routes linking Niani. Ibn Battuta's account of his visit to Niani in 1352-1353 suggests that few horses were kept there, and he states that they were "very expensive, one of them being worth 100 mithqals." Hopkins and Levtzion, Arabic Sources, 297. For discussion of archaeological and documentary evidence regarding Niani, Wladyslaw Filipowiak, "The Capital of Mediaeval Mali (Niani in the 6th to 17th century)," African Studies in Poland (Warsaw, 1980), 31-60.

97. Niane, Sundiata, 2; Djibril Tamsir Niane, "Recherches sur l'empire du Mali au moyen age; Le Problem de Soundjata," Recherches Africaines/Etudes Guineenes, 1 (Jan.-Mars 1960), 20-21. Shea butter is used for cooking, for burning in traditional lamps, and for manufacturing soap.

98. For Soninke jamu (patronyms) see B. Marie Perinbam, "The Julas in Western Sudanese History: Long-Distance Traders and Developers of Resources," in B.K. Swartz, Jr. and Raymond E. Dumett, West African Culture Dynamics: Archaeological and Historical Perspectives (The Hague, 1980), especially 457-461.

99. McIntosh and McIntosh, "West African Prehistory," 611, speculates that smiths were associated with the origins of social stratification in West Africa. See also McIntosh and McIntosh, "Current Directions," 241-245.

100. Patrick R. McNaughton, "Nyamakalaw: the Mande Bards and Blacksmiths" (unpublished paper, 1982), and "Daliluw: a Mande Application of Science and Sorcery" (unpublished paper, 1982). These papers and McNaughton's forthcoming Mande Blacksmiths provide remarkable insights concerning smiths and other nyamakalaw groups. See discussion following.

101. Beatrice Appia-Dabit, "Quelques artisans noirs," BIFAN, 3-4 (1941-1942), 1-24, especially 11.

102. Diertelen and Cisse, Societe d'initiation du komo, 9-10; 15-20; and McNaughton, Secret Sculptures of Komo, 8.

103. Richard-Molard, Afrique Occidentale Francaise, 111, speculates

concerning possible links between the three power associations, but does not mention the python totem discussed following.

104. Beatrice Appia, "Les Forgerons du Fouta-Djallon," Journal de la Societe des Africanistes, XXXV, 2 (1965), 322 and note 1. Ningiri (or Ninganni) hatch from the python egg at the center of a clutch of eggs. See also Geoffrey Parrinder, West African Religion (London, 1969), 50-53 and passim.

105. Niane, Sundiata, 69; "Probleme de Soundjata," 23. That the serpent inhabited a container made by a potter (wife of a smith) suggests that Sumanguru exercised control over it, i.e. Komo. On a more mundane level, the serpent protected Sumanguru's private chamber; in analagous manner, Komo leaders formerly (still?) kept snakes as guardians of the storehouses where the associaton's masks and other properties are kept. Personal communication, Patrick McNaughton, June 21, 1982.

106. Andre Arcin, Histoire de la Guinee francaise (Paris, 1911), 70. Reference to the ruler of Bena as "Roi des serpens" who takes a snake in his arms and caresses it like a small dog is found in Olfert Dapper, Description de l'Afrique (Amsterdam, 1686), printed in Fausto Duarte, "Os rios da Guine no livro do geografo flamengo D. O'Dapper — Descricao da Africa — Sec. XVII," Boletim Cultural da Guine Portuguesa, VI, No. 23 (Julho 1951), 737.

107. Simmons, Eyes of the Night, 71; 84.

108. Godelieve van Geertruyen, "La fonction de la sculpture dans une societe africaine: les Baga, Nalu et Landuman," Africana Gandensia Gent, 1 (1976), 63-117; see especially 63-74; and Denise Paulme, "Structures sociales en pays baga," BIFAN, XVIII, 1-2 (1956), 102-105. Paulme notes that the two Baga lineages are Kamara and Bangoura, both Mande clan names.

109. George Way Harley, Native African Medicine, with Special Reference to its Practice in the Mano Tribe of Liberia (Cambridge, 1941), 116; 122; 140. Some of Harley's chief informants were smiths (see photograph at the front of the book).

110. Charles S. Bird, personal communication, January 26, 1983. The identification of a "heroic age" seems appropriate, notwithstanding John William Johnson's cautionary remarks, "On the Heroic Age and other Primitive Theses," in Egle Victoria Zygas and Peter Voorheis, eds., Folklorica: Festschrift for Felix J. Oinas (Bloomington, 1982), 121-138.

111. Niane, Sundiata, passim.

112. Djibril Tamsir Niane, "Recherches sur l'Empire du Mali au moyen age; La Tradition historique," Recherches Africaines, 1-4 (Jan.-Dec., 1959), 39. Niane remarks that questions of descent are frequently a divisive issue in Guinea-Conakry.

113. Charles S. Bird and Martha B. Kendall, "The Mande Hero," in Ivan Karp and Charles S. Bird, eds., Explorations in African Systems of Thought (Bloomington, 1980), 14. Wolof and Fula societies share similar views concerning these contradictory principles. See Bakari K. Sidibe and Winifred F. Galloway, "Senegambian Traditional Families," Occasional Papers of The Gambia Cultural Archives, No. 1 (July 1975), 5.

114. Bird and Kendall, "Mande Hero," 15.

115. Ibid., 16-17 for discussion of nya ("means"), dalilu ("the means or powers required to perform an act"), and nyama ("the dangerous forces released through the performance of dalilu"). A memorable example: "The epic recounting the exploits of Sunjata, founder of the Mali Empire, contains an episode during Sunjata's exile from the Mande in which one of his hosts sacrifices an unborn child over Sunjata's fetishes. The terrible nyama this act releases destroys the host at the same time as it empowers the fetishes and gives Sunjata the power to act."

116. Galloway, "History of Wuli," 256-257, and see discussion following.

117. Bird, "Development of Mandekan," 154-155.

118. Ibid., 156.

119. Niane, "Tradition historique," 38 and note 3. Compare Trimingham, History of Islam, 61-62.

120. J. Spencer Trimingham, Islam in West Africa (Oxford, 1959), Chapter 2.

121. Brooks, "Kola Trade," 24-27.

122. Teixeira da Mota, "A Viagem do navio 'Santiago' a Serra Leoa e Rio de S. Domingos em 1526," Boletim Cultural da Guine Portuguese, XXIV, No. 95 (Julho 1969), 529-531.

123. John William Blake, Europeans in West Africa, 1450-1560 (London, 1941), 173. Suzanne Daveau's analysis of information concerning Mauretania compiled by João Rodrigues in the 1490s suggests that the wet period commenced in the sahel prior to 1500. "La decouverte du climat d'Afrique tropicale au cours de navigations protugaises (XVe siecle et debut du XVIe siecle," BIFAN, XXXI, 4 (1969), 955; 964-967; 984-986.

124. Hair, "Ethnolinguistic Continuity," 247-257.

125. Christopher Ull, "You Can Keep a Good Forest Down," Natural History (April 1985), 71-79.

126. Donelha, Descrição da Serra Leoa, 236-237, note 113.

127. Levtzion, Ghana and Mali, 80-84.

128. Ibid., 89-91.

129. Ibid., 92-93.

130. For a map depicting Songhai-controlled territory at the empire's apogee, Mauny, Tableau geographique, map facing page 514.

131. Lansine Kaba, "Archers, Musketeers, and Mosquitoes: The Moroccan Invasion of the Sudan and the Songhay Resistance (1591-1612)," JAH, 22, 4 (1981), especially 469. See also Sekene-Mody Cissoko, "Famines: et epidemies a Tombouctou et dans la Boucle du Niger du xvi au xviii siecle, BIFAN, XXX, 3 (1968), 806-821. There were destructive floods along the bend of the Niger River during the c1500-1630 wet period.

132. Donelha, Descricão da Serra Leoa, 310-311, note 286.

133. Brooks, "Kola Trade," 31-33.

134. Ibid., 34-35.

135. Curtin, Senegambia, 11; 37; 41-43; 68ff. For a time Fuuta Tooro exercised a suzerainty over Dyolof. Ibid., 11. For the commerce in hides, Nize Izabel de Moraes, "Le Commerce des peaux a la Petite-Cote au xvii siecle (Senegal)," Notes Africaines, No. 134 (April 1972), 37-45.

136. Brooks, "Kola Trade," 14-15.

137. It is uncertain when Lebou groups first migrated southwards from the mouth of the Senegal River to settle on the Cape Verde peninsula. Reviewing available evidence, Mercier and Balandier conclude that it was during the seventeenth century. It might have been earlier. P. Mercier and G. Balandier, Les Pecheurs lebou du Senegal (Saint Louis, 1952), 14-15.

138. Walter Rodney, A History of the Upper Guinea Coast, 1545-1800 (London, 1970), Chapter II and "A Reconsideration of the Mane Invasions of Sierra Leone," JAH, VIII, 2 (1967), 219-146; and Yves Person, "Ethnic Movements and Acculturation in Upper Guinea since the Fifteenth Century," IJAHS, IV, 3 (1971), 669-689. The discussion following derives, with some modifications, from Brooks, "The Mani Invasions of Liberia and Sierra Leone in Larger Perspective" (unpublished paper presented to the Liberian Studies Association annual meeting, Philadelphia, April 15-17, 1982).

139. For background, Holsoe, "Manding in Western Liberia," 1-2; and "Economic Activities in the Liberian Area," 65-66; and Azevedo, "Historical Problems," passim.

140. John W. Blake, West Africa: Quest for God and Gold, 1454-1578 (London, 1977), 83-85.

141. Rodney, Upper Guinea Coast, 44; 56-58. For discussion of possible pre-European coastwise commerce, Brooks, Kru Mariner, 105-107.

142. Holsoe, "Economic Activities," 63, cites Vai traditions that the Dei lived as far north as the Mano River when they reached the coast. For the role of smiths in capturing the fortified Bullom town, Donelha, Descricão de Serra Leoa, 106-107.

143. Almada, "Tratado breve," translated in Fyfe, Sierra Leone Inheritance, 44-45.

144. Holsoe, "Economic Activities," 72-74.

145. Brooks, "Kola Trade," 10-11; and Dalziel, Useful Plants, 470-472.

146. George Harley, "Roads and Trails in Liberia," Geographical Review, XXIX (1939), 447-460.

147. P.E.H. Hair, "Notes on the Early Study of Some West African Languages," BIFAN XXIII, 3-4 (1961), 687. Previously, Mendi groups were known to Europeans by different names, including "Quojas" in the seventeenth and eighteenth centuries, and in the nineteenth century those living on the Sierra Leone peninsula were termed "Kossas."

148. Rodney, Upper Guinea Coast, 64-65; 67.

149. See also discussion of the attributes and territorial distribution of Nowo, a female spirit associated with Poro and Bundu. Lamp, Art of the West Atlantic Coast, 21ff. Siegmann's map (#15) is printed without attribution in Ethnologische Zeitschrift Zurich, I (1980), 2.

150. A notable exception mentioned above is that of the Banyun states of the Guinea-Bissau region, which permitted Portuguese and Luso-Africans (and other Europeans and Eur-Africans) to travel and trade between the Cacheu and Gambia rivers from the close of the fifteenth century to the middle of the eighteenth century, after which access was denied. See Brooks, "Perspectives on Luso-African Commerce and Settlement in the Gambia and Guinea-Bissau Region, 16th-17th Centuries," Boston University African Studies Center Working Papers, No. 24 (1980), 14-15.

151. R.V. Dorjahn and Christopher Fyfe, "Landlord and Stranger: Change in Tenancy Relations in Sierra Leone," JAH, III, 3 (1962), 391-397, and Bruce L. Mouser, "Landlords-Strangers: A Process of Accommodation and Assimilation," International Journal of African Historical Studies, VIII, 3 (1975), 425-440, offer perspectives on landlord-stranger reciprocities on the Upper Guinea Coast.

152. For derivation ot tangomao, P.E.H. Hair, "Inventory of the Upper Guinea Coast," 54. Antonio Carreira, Cabo Verde: Formacao e

extincao de uma sociedade escravocrata (1460-1878) (Porto, 1972), 47-62 provides an informative discussion concerning derivations and contemporaneous usage of the terms lancado and tangomao.

153. Almada, "Tratado breve," 312.

154. Fernandes, Description, 70-73. P.E.H. Hair, "The Text of Valentin Fernandes' Account of Upper Guinea," BIFAN, XXXI, 4 (October 1969), 1038, speculates that hatschira is derived from the Arabic jinni (a "spirit"). Seemingly, Portuguese adopted the Wolof variant dying and applied it to African beliefs and practices they encountered as they proceeded southwards along the coast. Hair, "Inventory of the Upper Guinea Coast," 45.

155. Many aspects of Fernandes' account are elucidated by information in Marc Ronald Schloss, "The Hatchet's Blood; Spirits and Society among the Ehing or Senegal" (Ph.D. dissertation, University of Virginia, 1979). See especially pages 1; 5-6; and 181-189.

156. P.E.H. Hair, "Early Sources on Sierra Leone: (5) Barreira (letter of 23.2.1606)," Africana Research Bulletin, V, 4 (1975), 88; 91.

157. Brooks, "Kola Trade," 31-35; and Rodney, Upper Guinea Coast, 88-93.

158. Much of the following is a restatement of the author's "Luso-African Commerce," and "Kola Trade," 5-7. The Cape Verde Islands share the "sahelian" climate pattern of the African coast some 350-500 miles distant. The archipelago's "windward islands," those closest to Africa and desiccated by winds blowing off the Sahara most of the year, receive only four to five inches of rainfall a year during the months from June to September. The "leeward islands" receive from ten to twenty inches during the same months, with high mountain valleys obtaining additional moisture from condensation from fog and clouds. Such is notably the case on the larges island, São Tiago, which has half the archipelago's populatio. Most of the Cape Verdeans who sought their livelihoods in West Africa came from Sao Tiago.

159. Translated in P.E.H. Hair, "Sources on Early Sierra Leone: (2) Andrade (1582), Ruiters (1623), Carvalho (1632)," Africana Research Bulletin, V, 1 (October 1974), 51-52. Hair comments that besides first-hand observation, Ruiters' account may incorporate information obtained from Dutch seamen who had visited West Africa in the 1610s.

160. Rodney, Upper Guinea Coast, 204.

161. There were notable exceptions to the foregoing: Diola, Balanta, and Bijago groups generally excluded Europeans and Eur-Africans from living in their communities. For the material following, see discussion and sources cited in Brooks, "Luso-African Commerce," 7-13.

162. For pirogue, Raymond Mauny, Glossaire des expressions et

termes employes dans l'Ouest Africain (Dakar, 1952), 56. Additional material concerning pirogues will be presented in a forthcoming paper concerning the construction and navigation of African and European craft in western Africa.

163. Syncretism in the Guinea-Bissau region is examined in Brooks, "The Observance of All Souls' Day in the Guinea-Bissau Region: A Christian Holy Day, An African Harvest Festiva, An African New Year's Celebration, or All of the Above(?)," History in Africa, No. 11 (1984), 1-34.

164. Nicholson, "Climate Reconstruction," 44-46; Curtin, Senegambia, Appendix I; and Charles Becker, Conditions ecologiques et la traite des esclaves en Senegambie: "climat", secheresse", "famines", "epidemies" aux 17e et 18e siecles (Kaolack, 1982), especially page 42. Becker's study comprises a valuable review of sources and analyses, with cogent suggestions concerning interdisciplinary research.

165. Michael Jackson, The Kuranko: Dimensions of Social Reality in a West African Society (London, 1977), 1-2; 5.

166. Nicholson, "Climate Reconstruction," 47-48. Nicholson characterizes the years from the 1860s to c1900 as "significantly wetter than those of the twentieth century," i.e., the c1930-1960 period used for the "base map" in this study.

167. Curtin, Senegambia, 110.

168. See Philip D. Curtin, The Atlantic Slave Trade: A Census (Madison, 1969), 150, 170, and 266; and Paul E. Lovejoy, "The Volume of the Atlantic Slave Trade: A Synthesis," JAH, 23, 4 (1982), 485.

169. Ralph A. Austen, "The Trans-Sahara Slave Trade: A Tentative Census," in Henry A. Gemery and Jan S. Hogendorn, eds., The Uncommon Market (New York, 1979), 23-76; see especially Table 2.8 on page 66.

170. M.A. Klein, "Slavery, the Slave Trade, and Legitimate Commerce," Etudes d'Histoire Africaines, 2 (1970), 19-20. For nyancho, Donald R. Wright, "Thoughts on the Nature of Precolonial Mandinka Polity and Society, Gambia - Guinea-Bissau" (unpublished paper, African Studies Association convention, 1981).

171. See the contributions of Brooks, Carol P. MacCormack, and Bruce L. Mouser in Claire C. Robertson and Martin A. Klein, eds., Women and Slavery in Africa (Madison, 1983); and Adam Jones, From Slaves to Palm Kernels: A History of the Galinhas Country (West Africa) 1730-1890 (Wiesbaden, 1983), especially chapters 4 and 6.

172. Christopher Fyfe, A History of Sierra Leone (London, 1962), 137-138; 195-197.

173. Brooks, "Peanuts and Colonialism: Consequences of the Commercialization of Peanuts in West Africa, 1830-1870," JAH, 16, 1

(1975), 29-54.

174. Odile Goerg, "L'Exportation d'arachides des 'Rivieres du Sud' puis de Guinee (1842-1913): de produit dominant a produit secondaire" (unpublished paper, Symposium on the Quantification of the Import and Export and Long Distance Trade of Africa in the 19th Century, St. Augustin, Germany, January 3-6, 1983).

175. Lucien Marie Francois Famechon, Notice sur la Guinee francaise (Paris, 1900) 98-99.

176. John Ralph Willis, ed., The Cultivators of Islam (London, 1974), 2.

177. Ibid., 2; 13-14. For example in Futa Toro, "The Denianke observed with contempt that it was enough for a slave to learn to read the Qur'an to become a 'Torodo', 'Torobe' and slave coming to mean the same thing." J. Suert-Canale and Boubacar Barry, "The Western Atlantic Coast to 1800," in J.F.A. Ajayi and Michael Crowder, eds., History of West Africa (London, 2nd. ed., 1976), I, 499.

178. Information concerning Malik Sy and his times is sparse, and scholars differ in their treatment of these developments. See Suret-Canale and Barry, "Western Atlantic Coast," 501-503; and Curtin, Senegambia, 49-50.

179. For the discussion following, Suret-Canale and Barry, "Western Atlantic Coast," 490ff.; Nehemia Levtzion, "Notes sur les origines de l'Islam militant au Fouta-Djalon," Notes Africaines, No. 132 (Oct. 1971), 94-96; and Walter Rodney, "Jihad and Social Revolution in Futa Djalon in the Eighteenth Century," Journal of the Historical Society of Nigeria, IV, 2 (June 1968), 277-282.

180. Sidibe, "Kaabu and Fuladu," 15-16.

181. Church, West Africa, 66-67; 292. Church remarks, "The worse the bowal, the more captives were required to provide food; hence the coincidence of denser population in poor high parts used for wet season pastures, and in valleys used for crops and dry season pasturing."

182. Sidibe, "Kaabu and Fuladu," describes the downfall of Kaabu according to traditions related by Mandinka bards.

183. B.G. Martin, Muslim Brotherhoods in Nineteenth-Century Africa (Cambridge, 1976), Chapter 3.

184. Yves Person, "Le Soudan nigerien et la Guinee occidentale," in Hubert Deschamps, ed., Histoire Generale de l'Afrique Noire (Paris, 1970), I, 283.

185. Benjamin Anderson, Narrative of a Journey to Musardu (New York, 1870; reprt. London, 1971), 96-99.